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ABSTRACT

A series of 10 case studies was conducted as part of a 20-month nationwide study of the accommodations provided to handicapped employees by federal contractors. During the course of the project, case study visits were made to the following firms: the Dow Chemical Company; E. I. DuPont de Nemours and Company; Hewlett-Packard; IBM Corporation; Lockheed Missiles and Space Company; Merck, Sharp, and Dohme; the Raytheon Company; the Storage Technology Corporation; Tektronix, Inc.; and the Union Carbide Corporation. The site visits, which lasted from 1 to 2 days, involved interviews with various types of individuals, including top administrators, handicapped employees, managers of handicapped employees, employment recruiters or interviewers, and individuals in outside agencies who send referrals to the firm or who handle accommodation issues. Because these companies are large, they all have at least one individual responsible for equal employment opportunity and affirmative action. In most cases, procedures for handling accommodation appear to be informal and decisions concerning accommodation are made on a flexible basis. Found to be especially successful were accommodation practices involving technological advancements that open job possibilities for some handicapped workers, special procedures for finding and interviewing qualified handicapped applicants, and training company staff in the areas of company policy and disability awareness. (MN)

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ED233185

A STUDY OF ACCOMMODATIONS PROVIDED TO HANDICAPPED EMPLOYEES BY FEDERAL CONTRACTORS

. Final Report

VOLUME II: Ten Case Studies

June 17, 1982

Contract No. J-9-E-1-0009

Prepared for:

U.S. Department of Labor
Employment Standards Administration

Submitted by:

Berkeley Planning Associates
3200 Adeline Street
Berkeley, California 94703
(415) 652-0999

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Project Staff:

Berkeley Planning Associates:

Frederick Collignon, Project Director
Mary Vencill, Project Manager
Linda Toms Barker
Dena Belzer
Shirley Langlois
Jonathan Levine
Susan Stoddard
Caleb Whitaker

Harold Russell Associates:

Duncan Ballantyne, Deputy Project Manager

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The assistance and support of numerous individuals and organizations have been invaluable in planning and conducting the study which led to this report. We especially wish to thank Thomas Hodges and Cynthia Deutermann of the U. S. Department of Labor for their encouragement and guidance throughout the study. A number of knowledgeable representatives of the business and labor communities assisted us in the design of the study, generously offering their time and wisdom in order to make our data gathering plan more realistic. An even larger number of company representatives assisted us by providing detailed information about accommodation experiences within their companies. Several advocacy and consumer organizations helped us encourage worker participation in the study.

Those individuals who assisted us by planning and coordinating case study visits to their respective firms merit a special thanks, namely representatives from the following companies:

- The Dow Chemical Company
- E. I. Du Pont de Nemours & Company
- Hewlett-Packard Company
- IBM Corporation
- Lockheed Missiles and Space Company
- Merck, Sharpe, & Dohme
- Raytheon Company
- Storage Technology Corporation
- Tektronix, Inc.
- Union Carbide Corporation

Two of the above-referenced representatives, John Honeck and Walter Lee, were also valuable additions to a panel presentation of project findings at the 1982 Annual Meetings of the President's Committee on Employment of the Handicapped.

We would like to express our thanks to these and other persons we encountered during the study, whose efforts both on our behalf and in improving employment opportunities for disabled and handicapped individuals have been noteworthy.

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INTRODUCTION TO CASE STUDIES

Berkeley Planning Associates, with the assistance of Harold Russell Associates, has completed a nationwide study documenting industry practices in providing accommodations to handicapped workers. The 20-month study had four major components:

- a survey of 2,000 federal contractors, documenting the extent, nature, and costs of the accommodations provided, together with the relationship between firms' attitudes toward accommodations and handicapped workers and the actions these firms had taken;
- telephone interviews with 85 firms which with responses to the mailed survey indicating that at least one significant accommodation had been provided. The goal of these interviews was to explore in some detail the circumstances surrounding a single accommodation: how and why it was undertaken and with what results;
- a survey of disabled workers to learn their perceptions about any accommodations that may have been made for them; and
- intensive case studies of ten firms identified from their survey and/or telephone responses as having exemplary accommodation practices. The goal of this study component was to learn in detail what those accommodation practices were, and how they related to other employment practices.

The findings presented in this Volume are from the fourth part of the study: the intensive case studies. Staff from Berkeley Planning Associates and Harold Russell Associates visited ten firms that had been identified through the mail and phone surveys as having exemplary practices in accommodating handicapped workers and job applicants. These site visits were done with the cooperation of the firm; appointments for interviews were, for the most part, arranged by a "specialist" in working with handicapped employees and applicants or by the Affirmative Action/Equal Employment Opportunity Office. Site visits varied from one to two days, and included interviews with the following types of individuals:

- Top administrators (e.g., Vice-President for Human Resources);
- Affirmative Action/Equal Employment Opportunity officers;
- Handicapped employees;
- Managers of handicapped employees;
- Employment recruiters or interviewers;
- "Outside Resources": individuals in agencies sending referrals to the firm or handling accommodation issues;
- Other individuals in the firm with special interest in the accommodations issue.

Site visits were conducted in the following firms:

- The Dow Chemical Company (March 31, April 1);
- DuPont Company (April 6-7);
- Hewlett Packard Company (April 15);
- IBM Corporation (April 15-16);
- Lockheed Missiles and Space Company, Inc. (April 1 and 8);
- Merck Sharp and Dohme (April 1-2);
- Raytheon Company (April 12-13);
- Storage Technology Corporation (April 13);
- Tektronix (April 6-7);
- Union Carbide Company (March 31, April 1).

These firms tended to be among the largest in our mail survey sample. They were selected for in-depth study because their responses to the questionnaires showed significant accommodation activity, and they were thus viewed as a particularly good source of insight into specific accommodation questions, as well as providing useful examples of accommodations "in action."

Because these companies are large, they all have at least one individual whose specific responsibility is Equal Employment Opportunity (EEO) and Affirmative Action (AA). In half the sites, one of these EEO/AA officers is specialized, and deals with disability issues exclusively or for the majority of the time.

The procedures for handling accommodation appear to be informal in most cases. Few large firms have written guidelines for the processes to be followed in accommodation. For the most part, decisions are made on

a flexible basis. Practices vary from division to division within a broad policy framework. Practices thus develop informally for the most part, and vary from individual to individual within each site.

One respondent indicated that the major job in accommodation is psychological, not physical, and has to do with educating managers and other employees about hiring and working with handicapped individuals. Many of the physical accessibility requirements of accommodation have been met through retrofitting existing buildings or constructing new buildings to meet federal standards. There are instances, in the individual cases presented here, where a ramp or physical plant modification has been critical in accommodation, but most often, the changes cited as illustrative accommodations are small, and often costless or very low in cost -- the use of a buddy system for a deaf worker who cannot hear an alarm bell, the adaptation of an existing stand or equipment to allow a worker to use a microscope with one hand, installing lower telephones and light switches, and keeping aisles clear.

Often, it is not the disabled individual but a coworker who has identified the need for an accommodation. Many of these changes occur serendipitously, and often are handled very informally. In one of the companies visited, the specialist we talked to played an active role in identifying the need for such accommodations and for finding innovative, simple solutions to eliminate specific job-related handicaps. In this and other sites, training departments, recruiters, managers, and coworkers have all played roles in identifying changes that could make a difference, and in effecting such changes. Often, these are simple things, such as raising a desk, installing a warning light, providing a digital stopwatch, or making an exception to a policy or rule.

A smaller number of accommodations are more dramatic. New technological advances have opened job possibilities for some workers, particularly the visually impaired. In several instances, devices such as the Optacon (which allows the user to read printed material in a tactile mode) have been obtained by the firms or by the worker, with the costs sometimes being shared with public agencies such as Vocational Rehabilitation. Other innovations that have allowed for expansion of worker capabilities

include a talking terminal for computer programmers and Voyager (by Visualtex), a device that magnifies written materials on a CRT-like screen. For deaf employees, some companies have installed TTYs and TDDs.

A number of company practices affect the degree to which Affirmative Action in hiring and accommodation on the job take place. A number of the companies visited have initiated special procedures for finding qualified handicapped applicants and for interviewing. Several companies have quantified Measures of Performance (MOPs) or Management by Objective (MBO) goals relating to hiring the handicapped. Other firms use this criteria, but on a subjective basis, for performance reviews. Companies vary in terms of agressiveness in seeking new employees with disabilities. Some successful strategies have included attending consumer job fairs, working closely with agencies for the handicapped, or contracting with private companies that train disabled individuals.

Another important area is training of company staff, particularly managers and supervisors, in regulations, company policy, and disability awareness. Video programs for training have been prepared in several companies, and training sometimes includes such specific topics as how to interview handicapped applicants.

In the pages that follow, the findings from each site visit are summarized in individual case studies. Each case study is organized so that the context of the study -- the industry in which the firm participates, the history of the firm's development, the size of the work force -- is described. Also, as an important contextual topic, the position of the "specialist" for employment of the handicapped is summarized. Each case study features several "cases" of accommodation of individuals with disability. In these short profiles of specific accommodations, fictitious names have been used to protect the individuals' privacy. In most cases, these people were interviewed by BPA or HRA staff, and shared information on their experiences and accommodations. In a few cases, the information was gathered from a supervisor or manager. The case studies then continue with a summary of practices followed by each firm in the accommodation process; these practices relate both to the accommodation of employees who are injured or otherwise disabled during employment, and to the interviewing of applicants and the hiring of new employees. Factors that encourage accommodation or constrain the company in accommodating are also

summarized. Finally, each case concludes with a summary of major findings on site, and sometimes with policy suggestions made by the firms. Each case study has been reviewed, and approved by the contact "specialist" and by others within the firm to ensure its accuracy.

The case studies illustrate how ten companies have responded to the social responsibility of employing the handicapped. It is apparent that in most instances accommodation is a very personal response to individual need. In the most progressive industry environments, accommodation is seen as good business practice, not as an extra cost. Such practices have not emerged solely as the result of recent federal regulations, but often have been in place for years. The following excerpt from a 1962 employee newsletter expresses the spirit of accommodation well:

> WHAT MATTERS? ABILITY NOT DISABILITY
>
> When it hires, Tektronix seeks not to discriminate either against any person or for any person. The important thing is that person's ability -- not his disability.
>
> We will make one concession: We will take the necessary extra effort to make sure he has a fair chance at the start. So it is that we invest more in his placement than that of the average job candidate.
>
> There are two good reasons why -- good reasons for Tektronix:
>
> First, we are tapping a reservoir of dedicated, capable employees -- a reservoir it would be poor business to overlook.
>
> Second, a positive outlook toward hiring disabled persons is healthy for employee morale.[1]

---

[1] Tek Talk, Employees Publication of Tektronix, Inc., July 1962.

THE DOW CHEMICAL COMPANY

- Corporate Headquarters
- Dow Chemical U.S.A. Headquarters
- Michigan Division

BACKGROUND

The Dow Chemical Company is a large company with offices throughout the United States and abroad. The company was founded in 1898 in Midland, Michigan, by Herbert H. Dow. Today it is an international leader in the manufacture of chemical products, plastics, metals, pharmaceuticals, agricultural insecticides and herbicides, and such household products as Handi-wrap®, Saran® wrap, and Ziploc® bags. The company is comprised of six Areas: Dow Chemical U.S.A; Canada; Pacific; Latin America; Brazil, and Europe. Of these, Dow Chemical U.S.A. is the largest Area, with many locations throughout the United States. Within each Area are manufacturing divisions, sales offices, and research facilities. Some locations are highly specialized in their operations, producing only one or a few products. At the other extreme are large, integrated complexes producing hundreds of chemicals in shipload quantities. One of the Dow Chemical U.S.A. divisions is the Michigan Division, also located in Midland, Michigan.

The Michigan Division occupies the original site of The Dow Chemical Company. It is one of the largest chemical manufacturing sites in the world, with 1,600 acres containing shops, production plants, laboratories, and offices. Two plants in Bay City and one in Ludington are also included in the Michigan Division, which employs approximately 6,000 people.

The site visit included both the Dow Center and the Michigan Division of Dow.

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The specialist who arranged the site visit is the Supervisor for EEO programs in the U.S. Area EEO office. This office has a manager, supervisor, and two other staff members. It is the EEO policymaking group for Dow U.S.A. Each of Dow's locations has its own EEO/AA responsibility, and develops an Affirmative Action Plan. The larger plants (Michigan, Texas) have their own EEO officers; smaller locations have assigned this responsibility to their personnel or hiring staff. These site EEO personnel report to their own local line managers; policy direction comes from the U.S.A. EEO office. The corporate headquarters has an EEO manager as well.

The U.S.A. EEO department started in the early 1970s. Such functions existed before, but were handled locally. The central office function was created in part in response to legislative requirements. The current manager has been in the position for six months, the supervisor for three months, and the other two staff members for three and four years respectively. The central office is not usually involved in individual accommodation decisions, but in policy and coordinating EEO activities with all Dow U.S.A. locations. The office will occasionally handle EEO complaints, but for the most part such issues are resolved between employee or applicant and local managers.

The office has had some contact with outside agencies such as vocational rehabilitation, but for the most part the company relies on its own internal offices and staffs for solutions to the rehabilitation problems of employees. There is a medical department on site. There appears to be a general policy of non-involvement with outside agencies, with an emphasis on solving individual problems internally.

Dow does not have formally written accommodation procedures, but there are numerous examples of individual cases of accommodation. Specific data is available only on a subset of these, however. Statistics available within the company grossly undercount the numbers of accommodations; reporting is limited to those handicapped individuals who self-identify or some others for whom accommodation is made. Few employees at Dow choose to be included in such statistics. This year, for instance, an invitation to self-identify was included in Michigan Division's company

magazine, and the Dow Center's newsletter. These announcements got little response. The company makes a conscious effort to inform employees of their rights, with invitations to identify and EEO/AA policy statements posted in prominent places near the entrances to corporate offices. Local divisions use letters and publications to this end as well. A copy of this year's headquarters unit invitation notice is attached.

INDIVIDUAL CASES OF ACCOMMODATION

Accommodation at Dow is not formalized in policy but happens on an individual basis. The case of one severely disabled worker illustrates a variety of different small accommodations that have eliminated handicaps on the job. This is a young woman who is a programmer/analyst and also the technical supervisor of a systems group. She uses a wheelchiar, and has a progressive condition that is also affecting muscle control in her arms. She was handicapped when hired by Dow after completing her B.S. in chemistry. In her job search, other companies told her that their medical departments wouldn't allow them to hire her; only at Dow was she offered a job. She has been with the company for about 15 years; however, when first employed she was hired on a contractual basis, which essentially means self-employed or consultant. Eight years ago, she was hired as a permanent employee, and has since been promoted to technical supervisor. The company has made a number of physical accommodations specifically for her and, in addition, she has benefitted from new, mostly barrier-free, construction. She has a special parking place near the building; this policy of Dow's predated legislative requirements, and mobility-impaired individuals can have parking near the building entrances. Many of the general physical modifications have come since she has been at Dow. In the early years, she had to wait for someone to help her up the stairs, and since she was unable to get in and out of buildings alone she couldn't work late or easily get from one building to another. Now, only one building relevant to her job presents such a problem.

Modifications were made specifically in response to her own situation and needs when she began working in her current research area. The bathroom was modified, and she was consulted on other design features and

influenced the positioning of light switches (so she can reach them from a chair) and carpeting (specifying installation of low-pile carpet so that wheelchair wheels don't meet with too much resistance). Her mailbox is lower and remains so when mailboxes are reassigned. In these modifications, she has worked with her supervisor, who has been supportive and helpful. The accommodation spirit was characterized as "employee to employee" with co-workers assisting in transferring her from car to chair and informally taking responsibility for her safety in the event of an evacuation.

Retraining is another type of accommodation, and Dow has shown a willingness to provide such training. One of Dow Chemical U.S.A.'s employees became blind subsequent to his employment by Dow. The company supported him in a return to school to earn a doctorate degree. This employee is now a manager and travels throughout the United States and around the world as part of his job. Dow has provided transportation expenses for a traveling companion to assist in the travels or has arranged for other transportation assistance.

In another of Dow's locations, a blind woman was hired in 1951. She is presently a secretary and has been with the company for 31 years. She is very active in her state chapter of Blind Secretaries and Transcribers. In 1976, Dow obtained an Optacon for her; this recently marketed device allows her to read printed material in Braille, thus expanding her abilities on the job. In addition to the equipment, Dow sent her to a training program in California for nine days in the use of this equipment. Such purchases are approved and arranged for at the local level and do not come to the attention of the national headquarters. This particular employee was nominated for a corporate achievement award for producing a videotape for the company on handicapped people. The nomination brought the case to the attention of managers in the headquarters. Dow has sponsored her attendance as a delegate from her state at the President's Committee on the Employment of the Handicapped, in Washington, D.C., for the past three years.

PRACTICES

Hiring

Dow is a company that focuses on taking professional staff (chemists, chemical engineers, business administration) in at "entry level" (usually with four-year college degrees) and usually promotes from within the ranks. This was explained as a policy of "growing our own." Consequently, it is at the first-level professional job that recruiting focuses. Dow holds interviews at campuses throughout the country and also receives write-in applications to fill these "entry-level" jobs. There is nothing explicit in the recruiting procedures regarding "different" handling of handicapped applicants. Recruiters are looking for individuals qualified for specific jobs; a disability is not a factor, unless it is a disability that makes the performance of the job requirements impossible. An example was given of a man with a leg prosthesis who had applied a number of years ago to be a starting-level engineer in a division that required extensive ladder-climbing and mobility skills. The company did suggest that perhaps another site without the ladder requirements would be preferable, but the applicant demonstrated that he could negotiate the ladders and secured the job he was after. This employee has been with the company now for a number of years and has evidently required no specific accommodation. This example illustrates the point that was reiterated throughout the site visit: if the requirements of the job (physical requirements, training requirements) can be met, then the company will accommodate to individual needs. However, if the job requirements cannot be met, the company will not change the requirements to fit the individual. In the case of an on-the-job employee, this may call for transfer to another job. In the case of an applicant, the applicant must apply for a job where the job specifications can be met.

EEO Information

Dow announces employees' rights and EEO policy visibly; signs are posted prominently at main entrances, and letters and news announcements have been sent to all employees periodically. In addition, such information is presented to new employees when hired.

Special Services

Since 1958, the Michigan Division has had a program for temporarily or permanently disabled hourly employees who are not able to function on their regular jobs. This program, originally called the Handicapped Group, is now called Special Services. An employee might be referred to this program if injured on the job or outside, or if some function became impaired. The Special Services program performs selected work for other departments in the Division. The group was developed through negotiation between management and the union, and is open to hourly employees. The idea is to keep employees productively employed in work they can perform successfully.

The Special Services group has its own building on the grounds of the Michigan Division. About 40 people at a time have worked in this group. Currently, the group is smaller since a number of its members have elected for early retirement in response to a recent companywide early retirement incentive. Since the program started, approximately 2,800 Dow employees have been in the group. The idea is not to place someone permanently in a "sheltered" environment, but to rehabilitate the individual and reassign him or her either to the same job or to a different job where the disability is not a handicap. Medical and psychological assistance are available from the Dow medical department. Many of the hourly jobs require a great deal of mobility (for climbing ladders, moving heavy equipment, performing various other physically demanding operations). If a worker becomes physically impaired, it is often the practice to find another job that doesn't require the same physical specification. For instance, one worker was injured in an automobile accident and is now an engineering draftsman, a job that does not require the mobility of his previous job as an operator in a production plant. In many cases, a worker in Special Services will be assigned to work in the department for which the work is being undertaken. While the worker is formally the employee of Special Services, supervision is from the department where the work is being performed. The group has several members assigned to various departments, and has workers in the central group building as well.

The policy with respect to Special Services is changing at this time. The company is currently looking to department managers to find alternative

jobs for their disabled workers within their own departments, rather than referring them out to the Division Special Services program. This policy encourages each department to accommodate the worker, rather than pass on the responsibility. Because of the early retirements and this shift in policy, the group is becoming smaller than it has been in the past.

DECISION FACTORS

The Economy

An understanding of the recruiting and hiring practices requires consideration of the hiring picture in general at Dow. Michigan as a state has experienced a severe unemployment situation, with an unemployment rate of 17%. Consequently, the Michigan Division of Dow has not been "in a hiring mode" for hourly employees. In fact, the Midland plant has stopped taking hourly applications because, with very limited hiring, applications become a paper process. A small number of technical/professional people have been hired.

Individual Qualifications

The qualifications of an individual and the satisfaction of specific job requirements are the most important factors in hiring and accommodating. The training of managers and recruiters is not specifically targeted toward handicapped individuals but for fair treatment of all people based on qualifications.

Safety

Concern for employee safety is an overriding factor in hiring and job appropriateness decisions. In chemical plants, there are dangers of fires and other hazards, plus the requirements for climbing on ladders three or four stories high and handling heavy equipment. There is a medical department, which gives each new employee a physical examination and will judge on the medical restrictions and job limitations of the employee for a job. Dow, as a matter of policy, does not place a handicapped person in a position where injury is likely because of the impairment.

Costs

Accommodations made for employees are made at the local level, and expenditure decisions are made within department operating budgets. Managers have discretion about these kinds of expenses, and the outlay for equipment or physical plant adjustments. In new buildings built since the architectural barrier regulations have been in effect, accommodations for the handicapped are included in the original building costs. For existing buildings or when remodeling is required, accommodations are made as needed. An estimate of costs involved for modifications of existing buildings for the handicapped showed approximately $200,000 from 1975 to 1981, but this is only an estimate since such costs are not recorded as separate expenditures.

Dow provided estimates of other typical individual costs:

- the Optacon for the blind secretary cost $2,895 in 1976; in addition, Dow paid for her training time and the other costs associated with the nine-day training course in California;
- modification of the restrooms at the Dow Center (three buildings) cost $26,570;
- a special electric cart with modifications was purchased for an employee with physical and visual impairments; this special vehicle, which allows him to deliver mail from building to building, cost approximately $5,000.

Cost of an accommodation does not appear to be the overriding factor in an accommodation decision. Safety appears to be much more the factor of concern.

There are no separate records on cost, and there are no records (except the medical records, which are not used for statistical purposes) of the numbers and types of existing conditions or the accommodations that have been made by individuals or by the company in response to particular needs. Only when an employee self-identifies or when an accommodation is made is that employee counted in the statistics for employment of the handicapped. Dow has experienced a very low rate of self-identification. Employees with obvious handicaps who require no special accommodation are not included in the count unless they respond to the request for self-identification.

Not all accommodations are recorded. Some employees do not want the accommodation counted, and the company has respected these requests. Further, some accommodations (like the lowering of the light switches during rewiring or the installation of one particular carpet) may never be singled out as an accommodation as such, but rather as a preference in specifications. Changing light fixtures if the regular lights bother wearers of contact lenses is another example of physical accommodation that would not be a "statistic." Thus, the company is able to summarize only a part of the actual effort of their accommodation.

CONCLUSIONS

Dow Chemical U.S.A., in addition to hiring handicapped individuals, has evidenced a commitment to keep workers on the job after becoming handicapped, and has had a program in place in its Michigan Division for doing so for almost 25 years. Its policies have been shifting as the times have changed; new laws and regulations have made workers and managers more aware of the handicapped and their needs. The reporting requirements themselves do not contribute to the accommodations procedures and, in fact, cannot adequately reflect the number of individual instances in which someone with a handicap is helped through a physical accommodation or an adjustment such as a change in schedule. The concern for employees and keeping them on the job fits within Dow's overall employment policies, where people are hired at entry level and trained for careers within the company. Such practices may be less feasible within companies with high turnover and with higher degrees of lateral mobility.

DOW CHEMICAL U.S.A.

MIDLAND, MICHIGAN 48640

To All Dow Headquarters Unit Employees

INVITATION TO BE CONSIDERED UNDER SECTION 503 OF THE REHABILITATION ACT OF 1973 AND SECTION 402, VIETNAM ERA VETERANS READJUSTMENT ASSISTANCE ACT OF 1974.

I am sure that most of you know that Dow has had a long and proud record of providing challenging employment opportunities to handicapped employees and to military veterans, including veterans of the Vietnam Era.

Two Federal Acts - The Rehabilitation Act of 1973, Section 503, and Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, provide guidelines for the development of affirmative action plans to assure full utilization and equal employment opportunities for those covered by these Acts.

This Letter of Invitation for self identification as a handicapped individual or veteran is for the purpose of including those who feel they are affected by the aforementioned Acts into our Affirmative Action Plans.

The definitions as stated in the regulations are as follows: A handicapped individual is any person who has a physical or mental impairment which substantially limits one or more of such person's major life activities--or has a record of such impairment--or is regarded as having had such impairment.

A Vietnam Era veteran is a person who served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964 and May 7, 1975 and was discharged with other than a dishonorable discharge.

Please notify your supervisor of your wishes to be considered under either Act by Friday, February 26, 1982. Of course this is a voluntary procedure and all information necessary to certify eligibility will be kept confidential. Any questions about this or any other area of Dow Headquarters Unit Affirmative Action Plans may be directed to me.

Edwin L. Bowman
Manager
Headquarters Unit EEO
January 1, 1982

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E. I. DU PONT DE NEMOURS & COMPANY

BACKGROUND

E. I. du Pont de Nemours and Company is a diversified international company with major petroleum, coal, and other energy and raw material resources. With headquarters in Wilmington, Delaware, the company produces and sells fuels and other energy products, and a broad range of high-technology products based on the chemical, biological and physical sciences. Major products and activities include:

- petroleum exploration and production;
- petroleum refining, marketing and transportation;
- coal and minerals;
- agricultural and industrial chemicals;
- polymer products;
- fibers;
- industrial and consumer products;
- biomedical products.

During 1981, many Du Pont businesses posted significant gains despite weaknesses in the U.S. and world economics. The year was marked by the acquisition of Conoco, Inc. which provided diversification into energy and chemical resources together with ownership of major oil, natural gas, and coal reserves. Du Pont also acquired New England Nuclear Corporation, a leading manufacturer of radiochemicals and radiopharmaceuticals for medical diagnosis and research.

Du Pont is proud of its long tradition of hiring and accommodating handicapped individuals. Their original survey of handicapped employees in 1959, which was updated in 1973, documents efforts of the company which predated the Rehabilitation Act of 1973.

Du Pont has a strong loyalty to its employees. Du Pont wants employees to make a career with the company. As a result, company officials are motivated to accommodate individuals who become disabled while on the job, individuals who are handicapped when hired, or employees who require

temporary light-duty assignments in order to recover from an unjury sustained while employed (whether on or off the job).

Du Pont has a willingness to find out where the company stands with respect to hiring and accommodating handicapped individuals. In response to numerous requests for information about the 1973 Du Pont survey, the Employee Relations Department proposed that a third survey be conducted to update earlier findings, and to provide direction for future hiring and placement of handicapped individuals. Top management agreed and committed significant resources to the task. This survey of over 100 sites was conducted during 1981 and the results were published in a report entitled "Equal to the Task". Performance comparisons of handicapped and nomimpaired employees confirm the earlier findings that handicapped employees rate slightly higher in safety, approximately equal in performance of job duties and slightly lower in attendance. The 1981 survey also provided detailed information about accommodations for handicapped employees.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

The Employee Relations Department (ERD) at Du Pont's corporate headquarters is responsible for corporate policy and for giving support to other corporate departments as well as plants. The ERD includes an Affirmative Action (AA) Section which is staffed by a manager and several consultants specializing in affirmative action and compliance.

The next layer of AA is at the Department level. Each Department has specialists who are responsible for advising management concerning AA activities at a number of plants. The specialists assist in problem cases, clarify company policy, and review affirmative action programs. In addition to corporate and departmental personnel, each plant has AA representatives who are responsible for assisting in implementing Du Pont's affirmative action program.

During 1981, the specialist in this case study was consultant in the corporate Affirmative Action section. He was responsible for overall support of departments and plants in matters of affirmative action. Because of his background with handicapped employees as an area supervisor

and his diverse experience in areas such as engineering, manufacturing, business analysis, labor relations and finance, he was chosen to conduct the 1981 survey.

As a result of his background, and the knowledge gained while conducting the survey, this specialist has emerged as an expert on hiring and accommodating handicapped individuals at Du Pont. He has become a major source of information and guidance with Du Pont for matters relating to handicapped individuals. Recently, he was assigned broader responsibilities so that he may use his knowledge and experience to deal with complaints and to help managers and supervisors in all phases of affirmative action.

INDIVIDUAL CASES OF ACCOMMODATION

Barbara is mentally retarded. She applied two years ago for the job of messenger in the corporate Employee Relations Department. She had graduated from a special school in Massachusetts and has two years experience working in a retail store. She heard about the job opening from her husband, himself mentally handicapped, who works as a messenger in another office at Du Pont. (Her father-in-law is also a Du Pont employee.) She was motivated to work at Du Pont because of its reputation as a good place to work.

Barbara's employment process was the same as for any other applicant. She applied, took a standardized test and passed it on the second try, was interviewed by the supervisor of the employment unit and then interviewed by the supervisor in charge of messengers. Both were convinced that Barbara was qualified for the position; a check into her training and prior experience had been positive. While serving on a Governor's Committee on Employment of the Handicapped, the employment supervisor became aware of the capabilities of handicapped individuals. He was also aware of the good job that her husband was doing in his messenger position.

In the past, the position had been filled by high school co-op students or individuals who later moved on to higher-paying clerical jobs. As one of the few entry-level jobs in the Employee Relations Department, it

had traditionally been used as a stepping stone for other jobs in Du Pont. Part of the supervisor's motivation was to fill the job on a permanent basis to reduce the training task. In addition, he had previous favorable experience with handicapped workers, and he trusted the judgement of the supervisor of the Employment Unit.

He was encouraged to hire Barbara because the Vice President of Employee Relations was "always asking about considering handicapped individuals". This top management support and Du Pont's long tradition of hiring and accommodating handicapped individuals created a supportive environment.

The job of messenger consists of opening, sorting and distributing mail for the Employee Relations Department. Job requirements include ability to read and the mobility needed for delivering messages to many locations. The actual accommodations for Barbara were relatively minor, consisting of:

- taking more than the usual time to orient her to the job;
- being patient and helpful as she learned the job;
- putting messages in writing, so that Barbara is not required to memorize them;
- adhering to a precise job description and not asking her to perform additional non-messenger duties.

As a result, the Employee Relations Department has a stable and productive messenger. She now prides herself on assisting in the training of new messengers who work in the Employee Relations Department and has an excellent attendance record. Her supervisor finds her to be personable and capable. Not content to have her remain as a messenger without moving upward, the supervisor has exposed her to other jobs such as machine operator. To date, this has not proved fruitful, but he is still trying to help her chart a course for upward mobility.

According to the specialist, positive experience with Barbara has encouraged managers to take a harder look at the jobs that can be done by handicapped employees. It would have been relatively easy to fill the messenger position with a non-handicapped person who had a clear prospect of moving on to other jobs. Instead, Du Pont chose to hire a person who

was qualified to do the job and offered the possibility of making a significant commitment to being a skilled messenger. To date, the decision has paid off.

Since developing multiple sclerosis four years ago, Mick, a senior research chemist, has had to make significant adjustments to his job. As multiple sclerosis progressed, he became unable to walk for extended periods of time without a cane. Moreover he had difficulty writing. Increasingly, this began to affect his job, which required the preparation of reports on new processes connected with coal conversion.

To allow Mick to continue to function effectively as a member of the research staff, the following accommodations were made:

- Mick developed a good working relationship with his technician. As a result, the technician does the "hands on" tasks while the chemist designs the research program. Since the job of technician is to assist the chemist, this assistance is unusual only because it extends to all manual tasks.
- With company approval, Mick has designed many experiments using a computer. This results in faster acquisition of information.
- The company provides special parking.
- After Mick identified the buildings that he needed to enter, the company installed railings and ramps and made other changes to remove architectural barriers.
- Mick identified and tested a motorized wheelchair, which was then bought by the company to allow him to travel around the building.
- The company gave him an office adjacent to his research area.
- To overcome his difficulty with writing, the company bought him a typewriter.

These accommodations were originally requested by the employee. His supervisor, personnel representatives, Central Research and Development (CR&D) staff, and Equal Employment Opportunity representatives all cooperated to plan and implement the accommodations.

The costs of the various accommodations were borne by different budgets depending on the type of expense involved. Items such as the typewriter were paid from the department budget because they were considered

work-related. Items such as the motorized whe 'chair, installation of hand-rails, designation of special parking, and other architectural accommodations were paid from by CR&D's facility budget.

The result of these accommodations is that Mick has remained productive despite progressive multiple sclerosis, which has seriously diminished his physical abilities. Mick had been promoted recently and continues to make a valuable contribution to the research staff.

Brian was a deaf applicant for a draftsman position in the Electrical and Instrument Section of a Du Pont Division. His supervisor had no previous experience supervising disabled employees. Her overall attitude -- "He doesn't have a problem, I have a problem" -- illustrates the level of awareness and open-mindedness which Du Pont's ongoing affirmative action policies have created. Throughout the process of hiring, training, and supervising, the supervisor and Brian effectively responded to the challenge to communicate. During the initial interview, the supervisor expressed no concerns about how deafness might interfere with the job. Instead, using paper and pencil, she concentrated on training and experience. After learning that Brian had a two-year technical degree from the National Institue for the Deaf, had one year prior related experience, and was a personable individual who took responsibility for good communication, she was satisfied that he was qualified for the position.

Once on the job, Brian went about the task of preparing electrical schematics and did not request any special accommodations. Over time, a number of accommodations evolved. They included:

- the supervisor took twice the usual amount of time for initial training. Communication took place using paper and pencil. (In retrospect, the supervisor observed that using an interpreter would have saved considerable time.)
- Since the designers of electrical apparatus were in the same building, they agreed to stop by and provide Brian with more information in person rather than over the phone.
- An interpreter was provided during his performance review at a cost of $30 (an overhead account was used for this expense).

- Brian's supervisor checked with the personnel department and learned that a sign language course was available at a local high school. The company paid for the course so that she could overcome "her problem".
- Two co-workers have also learned sign language.
- During building evacuation, another employee is assigned to alert Brian and assist him out of the building.
- The company is planning to provide an interpreter for an upcoming training program over an eight week period at a total cost of $1,800 or more. (The training budget will pay this expense.)
- The purchase of a "Superphone" is being explored. This device would allow Brian to type a message using a device connected to his phone and the message could be heard on the other end. A reply, however, requires that the other individual push the buttons of a phone to spell out a message. The Superphone costs approximately $500. (This would be considered a capital expense and would be paid out of a capital budget.)

Brian assists in communication by a combination of lipreading, speaking a few words, sign language, and using paper and pencil. His willingness to use a variety of means of communication has minimized the need for accommodations. Aside from adaptations during the communication process, Brian performs the job of draftsman with no modification of job duties. The supervisor reports that he now requires no more supervision than any other worker in the section. In eleven months on the job, he has become an effective member of the Electrical and Instrument Section.

PRACTICES

Recruiting

As noted above, Du Pont is a highly desirable company to work for. Its tradition of concern for workers and its excellent employee programs produce an extremely large pool of applicants, which results in an adequate supply of qualified handicapped applicants. Company officials are not content, however, to draw solely from this pool.

The company conducts an outreach and recruitment program, at the corporate, department and individual plant levels. Such recruitment is best characterized as an effort to work closely with key agencies in the local area, e.g. State VR, rehabilitation agencies, consumer organizations, universities, training programs, etc. In addition, handicapped individuals with technical and scientific backgrounds are recruited as part of the overall college recruiting program. The company prefers its own recruitment programs rather than major involvement in government programs, such as PWI or CETA.

Du Pont has an ongoing commitment to working with over sixty community agencies that provide work and training for handicapped individuals in the community. Organizations that are involved in this community partnership are of two basic types: sheltered workshops that provide work for severely handicapped individuals who have uncertain potential for competitive employment; and vocational rehabilitation centers that train handicapped people to enter or re-enter the work force. A number of handicapped employees at Du Pont have been trained in these rehabilitation centers.

Hiring

The 1973 Du Pont Survey documented the company's success in employing qualified handicapped individuals even before the Rehabilitation Act was passed. One important finding of the study is that Du Pont has had increased success over the years in hiring severely handicapped persons, such as blind, deaf, and mentally retarded individuals. The 1981 study confirmed these findings and enhanced awareness and receptivity to hiring handicapped persons on the part of hiring managers by again making visible Du Pont's commitment to affirmative action and the success which it has produced.

On occasion, the company has designated a job specifically for a handicapped individual. The story of Barbara's placement shows how successful placement could encourage the messengers supervior to replace her with another handicapped individual should she leave. The factor which prevents "pigeon holeing" handicapped individuals is a policy that jobs are not exclusively reserved for handicapped people. While it may be a goal to place a handicapped individual in a job, such a goal would not preclude an

able-bodied person from being hired. Data gathered during the 1981 survey show clearly that handicapped individuals are not slotted as a rule. Instead, they are distributed throughout the various levels and types of jobs at Du Pont.

Accommodations

The 1981 survey inquired about accommodations of the following types:

- modification of training program;
- modification of job duties, assignments or schedule;
- facility or equipment accommodations;
- other accommodations.

In all, over 3,000 accommodations were identified among 2,745 handicapped employees. Modification of job duties emerged as a significant form of accommodation. Because of Du Pont's flexibility in work assignments and work rules, modifications could be made such as reassigning duties, eliminating some parts of a job, and not requiring handicapped employees to rotate through all the assignments within a particular job title. In addition, individuals can be excused from working overtime or are moved from rotating shifts to day work when necessary to protect them from additional stress. In some instances, Du Pont has been able to place a disabled employee in a "light duty" job on a temporary basis to allow for rehabilitation and eventual placement in a permanent position.

In addition to modification of job duties or schedules, a wide variety of training, facility and equipment accommodations were discovered. Many of these accommodations are listed in the survey report. Although no figures were given, the cost of most accommodations was described as nominal.

Because Du Pont has engineering and technical expertise, company officials prefer to use internal rather than external resources for making accommodations. The vast majority of accommodations are made and paid for at the plant level. Department-level and Corporate-level affirmative staff provide considerable expert support and coordination where accommodation involves difficult problem solving.

Du Pont's approach to paying for accommodations is a reliance on local facility budgets. Capital budgets, training budgets, and general

overhead budgets provide funds for most accommodations. There is no general fund for accommodation at the Department or Corporate levels. Likewise, accommodation decisions are generally made at the plant level, unless some consultation with Department or Corporate AA representatives is required.

Training and Communicating Policy

Since the 1981 survey confirmed Du Pont's solid accomplishments in hiring and accommodating handicapped individuals, the specialist recommended that the study be a major component of an effort to increase awareness of how handicapped employees contribute to Du Pont. When asked how one motivates a supervisor to hire and accommodate a handicapped worker when the supervisor has no previous experience upon which to draw, the specialist replied, "there has got to be some hook". By this, the specialist meant that the idea of handicapped people as desirable employees must be promoted because personal interest is one key to handicapped affirmative action success. He saw the Survey as one such "hook". Properly distributed and incorporated into Du Pont's awareness and training program, the survey could serve to heighten people's awareness concerning handicapped individuals and produce a positive climate for future hiring and accommodation.

The specialist is currently preparing a video-tape program that shows handicapped people on the job and discusses their experiences in greater detail. This will serve to reinforce the message of the survey and provide managers with a tool for use during EEO training.

DECISION FACTORS

The greatest motivator at Du Pont is the worker's job security. Du Pont expects that employees will remain with the company throughout their career. Accordingly, the company makes a major effort to retain the employee by making an accommodation to the present job, or to place the individual on a job which minimizes the effect of the disability. It is felt that accommodation is the "right thing to do" and that the company has an investment in the individual which should be protected. Another factor cited was the accommodation's potential benefit to other employees, whether handicapped or not.

Factors which would probably not act as a motivator include: the cost of the individual remaining home on disability or worker's compensation or a high turnover rate for a particular job category. Moreover, government programs (such as Targeted Jobs Tax Credits) are not viewed as motivators to hire or accommodate.

Most of the time, cost is not regarded as a major factor in making an accommodation. The specialist noted, however, that the federal government should consider a policy of subsidizing the cost of an expensive accommodation, so that expense doesn't act as a deterrent to hiring a handicapped applicant.

RECOMMENDATIONS/CONCLUSIONS

Recommendations for Federal Policy Makers

When asked about recommendations for federal policy makers about hiring and making accommodations for disabled persons, the specialist had these observations:

- The Department of Labor should continue to develop and disseminate publications that make people aware of the need to hire handicapped workers. Publications should show successful examples of hiring and accommodation and should stress the capabilities and contributions of handicapped workers. Efforts to encourage the employers to follow Du Pont's example by studying the results of their own affirmative action efforts are also likely to increase overall awareness.
- Industry should be encouraged to support sheltered workshops by giving them subcontract work. The profit motive can be harnessed successfully to benefit both industry and the workshops.

Lessons to be Learned

By conducting a survey of its handicapped employees, and communicating the results to all employees and the public, Du Pont has demonstrated its concern for handicapped individuals. The increased awareness resulting from the survey will assist Du Pont in all aspects of its affirmative action program, from recruiting to accommodation and upward mobility.

HEWLETT-PACKARD COMPANY

BACKGROUND

Hewlett-Packard Company (HP) was founded in 1939 in Dave Packard's garage, with a single product: an electronic instrument used to test sound equipment. It has grown rapidly to its current size of more than 64,000 employees. Manufacturing divisions are located in 23 cities in the U.S. and nine overseas. Together they design and manufacture more than 4,500 different types of precision electronic equipment.

Management at HP is decentralized. Divisions are kept small (2,000 employees or fewer); divisions are added as the company grows. Each division operates almost as a separate small business. Corporate objectives, however, are clearly articulated. Three of the seven formally stated objectives illustrate the company's long standing commitment to meeting the needs of their employees and of the community:

- to help HP people share in the company's success, which they make possible; to provide job security based on their performance; to recognize their individual achievements; and to help them gain a sense of satisfaction and accomplishment from their work.
- to foster initiative and creativity by allowing the individual great freedom of action in attaining well-defined objectives.
- to honor our obligations to society by being an economic, intellectual and social asset to each nation and each community in which we operate.

Basically, goals of equal employment opportunity, together with efforts to assist each employee to attain his or her maximum potential, are integral to HP's management philosophy and are seen as beneficial to the firm in that they encourage the best efforts of each employee.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

One of the most important accommodations for disabled workers that HP has made is the creation of a position within the corporate EEO office entitled "Manager of Affirmative Action for Disabled Persons and Handicapped Veterans". This person acts as a resource to EEO officials in each Division, providing information, helping them develop their own outreach programs, ensuring accessibility of the physical plant, and providing training. This position was created because an individual saw the need for it. Then working as an outside vendor, providing sign language training to HP employees, she discussed the need for this position with the corporate EEO Manager, was hired in 1979, and developed her own job description. In approximately two years spent in that position, her most important accomplishments were:

- improved accessibility in a number of divisions;
- installation of a number of "standard" accommodations such as TTY's[1] and Braille;
- establishing a program of summer cooperative education for disabled high school students;
- participation in the "Corporate Partnership" program of the International Year of Disabled Persons;
- a change in the process by which applicants could self-identify in order to benefit from the Affirmative Action Program. (The process was formerly part of the "tear-off" portion of the application used to gather other EEO statistics. This is, of course, separated from the personnel file of the employee and kept anonymous, and thus was not useful in identifying individual employees;

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[1] An interesting technique she has used for encouraging divisions to install TTY's, though there was no official mandate to do so, was to telephone the division and ask that a message be delivered to an individual deaf employee to contact the corporate office by TTY, and expressing surprise when it turned out that there was no TTY at that division.

- refinements of the Affirmative Action Plan for disabled employees;
- development of the half-day portion of the Affirmative Action Workshop which relates to disabled workers;
- production of a film entitled "Just Three People" which depicts the work situations of three HP employees with disabilities. This film was initially designed as part of internal training, and is still used for that purpose. It has also won a number of nationwide awards and has been nationally televised.

This person has now moved on to a position with broader affirmative action responsibilities. She was replaced by an individual who is disabled and who has a strong background in communications.

INDIVIDUAL CASES OF ACCOMMODATION[1]

Vic is an assembler who, due to polio, uses a wheelchair most of the time. He has worked at HP for a number of years and "got by" even when the facilities were not as completely accessible as they now are. As various building improvements were made, Vic was utilized as a consultant -- e.g., to test the measurements of the restroom stalls or to try out the automatic door. Most of the work benches in Vic's immediate area are about 45 inches in height, so that employees may work either standing or seated at stools; Vic's bench has been lowered to fit his particular chair and so that he may readily reach all the tools and equipment he needs. He has a reserved parking space near the building; this is the one request he would make of a new employer, were he to change jobs. Vic's work does not require him to move about a great deal. The items he must carry from one place to another are small enough that they present no problems for him -- in addition, co-workers are always willing to help out. Aisles are wide and usually uncluttered, so that he has no mobility problems.

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[1]The names used here are fictitious.

There was nothing remarkable about the process by which Vic was hired. He had a two-year college background and experience working for another firm. He left the other firm because salary progress was not as rapid as he had hoped it would be. Within two weeks, he had applied and been accepted for a job at HP. He is pleased with his position there, and seems to be satisfied with his salary progress. He did not identify any unmet needs, nor did he think of accommodation issues as having to do with his own work, but rather in terms of general plant accessibility.

Pat is a computer programmer who began losing her sight about seven years ago, as a side effect of diabetes. At that time she was finishing her teaching credential. After numerous unsuccessful treatments, she abandoned her plans for a teaching career and eventually enrolled in a computer programming training course for disabled persons operated by the Center for Independent Living in Berkeley, California. Through that program, she participated in a work experience "internship" at HP and then was hired as regular staff. Thus, she had had no related work experience, only training, at the time she was hired.

Before she began working for HP, Pat had obtained an Optacon through the California Department of Rehabilitation. However, reading with the Optacon was slow, and soon after beginning at HP, she acquired a talking terminal through a self-support plan, meaning that her monthly payments for the terminal were deducted from her earnings in determining the level of SSI benefits. Thus, she bore the expense of the terminal (about $6,000) though she was partly reimbursed by SSI benefits. Hewlett-Packard did not contribute directly to the purchase of the terminal. They have, however, helped her in the following ways:

- allowing her a one-month leave of absence for guide dog training;
- providing for her guide dog in the workplace;
- translating training manuals, inter-office communications, and her own written performance evaluation into computer-readable form so that she can have direct access to them rather than having to depend on a reader; and
- providing a dictaphone for her use.

In addition, co-workers have been extremely cooperative about reading for her.

The talking terminal has been very important in allowing Pat to work more quickly than she could have with the Optacon or Braille, and she feels that it has improved her career possibilities. The single remaining problem is that this terminal does not read "block mode", a format that she definitely needs in order to perform her job effectively. This would require a new terminal costing approximately $8,000. Pat has requested that HP purchase this equipment for her. She has not yet received an answer to this request. She has discussed her needs with the Manager of Affirmative Action for Disabled Persons, and has been referred to the Personnel Department of her own division, (the division which would have to bear the cost). She has been told that if she encounters obstacles there, she should re-contact the "specialist" for guidance in negotiating the next steps in having her request considered. This process is time consuming, given that each division makes its budget decision well in advance of actual expenditures. In the meantime, Pat works with a co-worker whenever her job requires using block mode. Another pending request is that HP pay for the maintenance contracts for the existing terminal and for the Optacon (slightly less than $800 per year combined). There is a precedent for this type of accommodation in other divisions. Pat feels that she is only learning to be assertive in making her needs known, and that assertiveness will help her in negotiating solutions to her few remaining work barriers. Because of the overall helpfulness of her supervisor and co-workers, she has always had a great deal of assistance in her daily work, and has never before needed to make her needs known. She states that the helpful attitudes of those around her have been very important, but she is conscious that she must be able to "pull her weight" in order to maintain their willingness to help -- another argument in favor of her request for additional accommodation.

Betty is a totally blind technician in a different HP division. Her job is to pretest and inspect printed circuit boards for microwave synthesizers. There are about four such types of boards that she currently tests. A number of accommodations were needed in order for her to perform effectively in a job that traditionally depends on visual skills. For each type of PC board that she inspects, Betty has an enlarged prototype (or schematic) that has been especially made for her. Each element has been raised in

Braille fashion, and the technical specifications have been Brailled, and attached to the schematic using a simple Dymo label machine. Each of these schematics costs approximately $300 to manufacture. In addition, Betty has an Optacon and a special machine that translates the visual readout during the testing process into audible form. Betty does not perform soldering duties which are normally part of her job but cannot be readily adapted to be performed by a blind person. Provisions are made for her guide dog to remain in her work area.

Betty came to HP about two years ago after completing a training program with Goodwill Industries. She was hired because her supervisor simply felt she was a good candidate with relevant training and the requisite skills. Her accommodations have come about in a number of ways: some were initially negotiated as part of the hiring process, with input from Goodwill, some equipment she already had, some was adapted on-site at HP, and some are seen almost as a part of normal operating procedure. The costs of accommodations were initially presented by her immediate supervisor to the department head as a special category within the overall operating budget for the department. They were approved at that level and passed along to the plant manager and then to successive levels of management until they reach corporate level. At some point in this approval process (which is part of the regular calculation of projected budgets for the division) the cost of the accommodations becomes almost "invisible" as a separate line item. Therefore, the key parts of the decision process are the support of the immediate supervisor and his next-in-line manager, each of whom may be required to justify individual expenditures. The question of whether or not to provide an accommodation for Betty has never actually been considered; it was taken for granted that the accommodation would be provided, and attention was focused instead on how best (or most cost-effectively) to go about it. Management time in planning or designing accommodations has never been considered as a cost item, although time has been spent by Betty, her immediate supervisor, the building engineer, the EEO specialist, and other managers for that purpose.

Within a month of the time Betty was hired, her supervisor knew that the accommodations were going to be successful. However, a few more months were needed to expand the scope of Betty's knowledge of different PC boards

so that she would have enough work to do. She currently works independently and is considered and evaluated as a regular employee.

PRACTICES

Hewlett-Packard was chosen for intensive case study of accommodation practices because each of the facilities included in the original sample of employers responded with questionnaires indicating substantial accommodation activity. Their exemplary record is the result of a strong and affirmative commitment company-wide to hiring qualified disabled persons. Accommodation follows as a matter of course in order to meet the mutual needs of employer and employee as they arise and are made known. HP has a number of practices which generally encourage the hiring and accommodation of disabled workers.

Community Involvement and Outreach

Ongoing community involvement with organizations of and for disabled persons, and a program of corporate giving to such organizations, provides a good source of applicants and of assistance with accommodation issues. Participants in training programs for disabled persons are sometimes offered an internship or on-the-job training opportunity at HP. New graduates of such programs are often hired. HP employees also serve on advisory boards to such organizations. Other links with outside resources include the use of consultants from time to time to assist with accommodations or related issues, or to provide special training. HP prefers to hire an independent accommodation engineer rather than relying on a government agency, because they expect better service and more accountability. Similarly, HP chooses not to claim tax credits because of the associated paperwork and delays.

Awareness of Needs

HP publishes a quarterly newsletter on Affirmative Action issues. The fact that the Manager of Affirmative Action for Disabled Persons is responsible for editing this newsletter ensures that issues affecting disabled workers figure importantly in each issue. The existence and wide

circulation of such a newsletter naturally increases awareness of and sensitivity to issues regarding disabled workers throughout HP. (See Attachment 3, a recent issue of the newsletter.)

Whenever a handicapped person is hired, a discussion of any special needs that person may have is held with all persons in his or her immediate work environment. The disabled worker may choose to be present or not during this discussion, according to individual preference. In this way, management makes known its commitment to meeting individual needs. At the same time, part of the message conveyed during this orientation is that what is expected is not necessarily "special treatment", just an equal chance to do a good job. This orientation is, of course, highly individualized in each case.

Accommodation

The general orientation of each employee includes a training course taught during working hours entitled "Working at HP". This class is regularly taught in sign language. In addition, sign language classes are available to all employees. These are part of HP's after-hours training program which makes available free of charge to employees at all levels a variety of courses aimed at skill development and career advancement.

A conscious "open-door" management policy means that both individual workers and their direct supervisors have easy access to the Manager of Affirmative Action for Disabled Persons as a resource person, problem solver, or advocate. Managers at all levels are extremely accessible to individual workers. As a general practice, they remain in close touch with workers and assist them in solving small problems before they become large problems.

Because management is decentralized to the point that decisions and budgets are made by persons who are knowledgeable about individual employees' needs, accommodations may occur without an impersonal decision process being necessary. This same policy of decentralized decision-making means that accommodation does not occur automatically; rather, each disabled employee must make his or her own case. It must be proven not only that the employee has a need, but that the accommodation will benefit both the

company and the individual. Thus, each time a costly accommodation is requested or proposed, managers consciously evaluate the likely return on the investment, since each manager must be prepared to substantiate reasons for major expenditures to his or her next-in-line manager. Accommodations are often the result of compromise; less expensive ways of accommodating an employee are often settled upon than were originally proposed. In some cases the employee has borne part or all of the cost of needed equipment.

Accessibility

HP has made every effort to make all of their facilities accessible to mobility impaired persons. This includes not only new buildings, but extensive remodeling of older ones. They have utilized existing disabled employees as "consultants" on accessibility. General use areas, as well as work areas, have been designed or modified with great care.

Training

Hewlett-Packard conducts a regular Affirmative Action Workshop for managers, AA specialists, and EEO coordinators in all divisions. Of this three-day conference, one half day is devoted to issues regarding disabled workers. Participants are given a list of resources, including the names of national organizations which will be able to provide information about various disabilities. With respect to accommodations, participants are told that they should consult the individual disabled employee about what is needed and how best to go about providing accommodations.

Part of the workshop agenda is the training film, "Just Three People". This film depicts the working life of three HP employees who are severely disabled. The film is honest about presenting co-workers' initial hesitations about having such a person in their work group, or in the case of one deaf individual, his manager's doubts about promoting him to a supervisory position. The film also shows clearly how the attitudes of managers and co-workers have changed through experience, and how the individual departments and HP as a whole have benefitted because these persons were given the opportunity to show what they can contribute. The title of this

film suggests the overall attitude at HP toward handicapped individuals: once accommodated, they should not be regarded as in any way special, but rather encouraged, assisted, and evaluated as an able-bodied person would be.

DECISION FACTORS

Qualifications of the Individual

At Hewlett-Packard, the decision to hire an individual is made solely on the basis of that person's training and relevant skills. No one is hired because he or she is disabled. It is because of HP's strong relationships with training programs for disabled persons that they are able to hire a number of qualified disabled persons. HP officials have found that persons referred from government agencies are often not job ready; therefore, they tend to concentrate their outreach efforts toward private training programs, such as Goodwill and the Computer Training Program at the Center for Independent Living. Because hiring decisions are decentralized, hiring managers have intimate knowledge of the conditions and requirements of the job. Each hiring decision is expected to benefit the department concretely and demonstrably. Similar reasoning is followed when making an accommodation decision: the skill and "track record" of the individual employee or applicant are taken into consideration. Among the factors weighed in assessing the "value" of the worker are training, education, and experience. More important, however, are intangible qualities such as attitude, willingness to work, dependability, and ability to work as part of a team.

Cost

Another important decision factor is cost. As mentioned above, the decentralized nature of decision-making and budgeting means that each manager is directly accountable for decisions that involve expenditures. This means that the process of obtaining a costly piece of equipment, for instance, is likely to encounter delays; it must await the next budget cycle, or perhaps the time needed to accumulate "evidence" that the investment is likely

to prove beneficial to the department. This process is inevitably affected by economic conditions. In recessionary times, such as the present, individual managers can be expected to weigh each decision carefully.

Corporate Commitment

Perhaps the most important decision factor, however, is rather difficult to define: an overall corporate commitment to helping each employee achieve his or her maximum potential has been translated into concrete objectives by two committed and very capable individuals who have held the position of Affirmative Action Manager for Disabled Persons. Their success in communicating Affirmative Action objectives, in increasing handicap awareness, in linking with outside organizations, and in working with individual employees has been an important factor in making equal opportunity at HP a reality.

CONCLUSIONS

HP officials offered a number of useful recommendations for other employers in the area of improving practices aimed at hiring and accommodating handicapped workers:

- education is an important key to breaking down attitudinal barriers. However, education must be actively pursued; it will not happen "by osmosis".
- It is important to be well prepared in order to educate others. Be prepared to answer difficult questions. (A number of Bay Area EEO specialists habitually gather for "brown bag lunches" in order to share information and educate each other. Practices such as this are helpful.)
- Don't lower standards when it comes to hiring or working with a disabled person. Hire qualified people, and expect them to perform in accordance with the skills and abilities that led you to hire them.
- Accommodation can be quite simple and doesn't have to cost a fortune. Again, the key is awareness of needs and knowledge of the possibilities.

Respondents were also asked what advice they would like to give to federal policy makers. More than one HP official stated that affirmative action enforcement is best undertaken in a "progressive" spirit, one of helping firms to bring about change rather than looking for areas of deficiency. Enforcement officials could be a valuable resource to firms, given the proper training. Such training would include an increased understanding of personnel functions in private industry.

One official felt that there is untapped potential in the area of incentives, such as tax credits. In order for such programs to act as a catalyst to change, they need to be streamlined (less red tape) and made more attractive to use. When that is accomplished, the programs should be widely publicized.

In the area of employment services and specific technical assistance for accommodation, one official doubted that government agencies could compete with private rehabilitation providers and trainers. The advice was, then, to "leave it alone," and let those entrepreneurs that can withstand the test of the market provide the needed expertise.

The most important lessons to be learned from examining Hewlett-Packard's hiring and accommodation practices are the following:

- a strong profit motive and careful attention to costs does not preclude exemplary practices with respect to handicapped workers;
- even in a supportive environment, individual workers must prove themselves;
- an individual EEO specialist in the right place at the right time can bring about significant changes; and
- a firm can gain (via worker loyalty, low turnover, and high productivity) by devoting attention and resources to helping each worker attain his or her potential -- accommodation is a natural outgrowth of such a policy.

IBM CORPORATION

BACKGROUND

One of the nation's largest employees, IBM has its corporate headquarters in Armonk, New York and numerous manufacturing and sales facilities worldwide. This case study was conducted at the corporate office and one major plant facility which develops and manufactures medium-sized computers, impact printers and circuit-packaging, and develops related operating system programs.

Approximately 8,000 people are employed at this plant. Occupations represented include ceramic engineers, chemists and chemical engineers, computer programmers, electrical, mechanical, and computer engineers, industrial engineers, materials scientists, mathematicians, statisticians, metallurgists, physicists, and a wide variety of production, managerial, and administrative personnel. There are very few assembly jobs at this plant. For the most part, these jobs have been eliminated, as such work is subcontracted out to other companies or sheltered workshops. Since the majority of production jobs now involve monitoring processes, opportunities for hiring visually impaired persons in entry-level manufacturing jobs are limited.

IBM has a long tradition of employing and accommodating handicapped individuals. The company hired its first handicapped person in 1914, the first year of its operation. The founder, Mr. Thomas J. Watson, Sr., brought an individual into IBM in 1942 with the express purpose of attracting more handicapped people into the company. This person left behind a legacy of involvement with handicapped individuals, and hence IBM's involvement with handicapped individuals has been strong ever since World War II.

Although a very large corporation, IBM has a basic respect for the individual. This philosophy permeates everything that IBM does. Thus, managers have considerable flexibility in modifying jobs. In addition, because IBM prides itself in the application of technology to business settings, many of the products developed have a direct benefit to handicapped individuals. The recent introduction of a "talking terminal" has opened up new career opportunities for blind people in both clerical and

technical fields. Cost is rarely a significant issue in the decision process. Because both employees and IBM typically make a career commitment in the employment decision, it is assumed that accommodation is a long term investment in the productivity of the individual.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

At the corporate level, the program manager, Affirmative Action Programs in the Equal Opportunity and Affirmative Action Department has come to be regarded as IBM's corporate expert on affirmative action for handicapped individuals. As such, he specializes in areas such as outreach and accommodation. One example of his role was the decision whether ramps should be installed in temporary buildings where no need for such access existed. The decision was that, due to the temporary nature of the facility, managers should wait until a mobility-impaired individual required such an accommodation. He also acts as a resource to managers throughout IBM who have questions and problems pertaining to the handicap program particularly with respect to outreach/recruitment and accommodation. In this role, he is supported by experts in specific disability or technical areas who are located throughout the country.

In addition to the above areas, the specialist acts as a resource to managers before any handicapped applicant is rejected for employment to ensure that all aspects of the situation have been considered before being communicated to the individual. In summary, the specialist sees himself as a catalyst in the development of affirmative action program for handicapped individuals. Prior to assuming this role in 1979, the specialist was involved in a broad range of personnel activities with no special involvement with handicapped individuals.

At the plant level, the manager of Compliance Programs and the Equal Opportunity Administrator implement the Equal Opportunity and Affirmative Action programs. The equal opportunity administrator coordinates the handicapped affirmative action program for the location.

INDIVIDUAL CASES OF ACCOMMODATION

Mark[1] is blind. He maintains and develops computer programs for the internal use of the facilities engineering department. Prior to joining IBM four years ago, he worked as a computer programmer for a small company. He left the job seeking more stability. Mark applied for the job "just like anybody else". During the interview, he mentioned the existence of some special equipment which would facilitate his doing the job. The manager had also investigated possible equipment and offered some alternative ideas. As a consequence, both Mark and his supervisor began shopping for the equipment.

Accommodations for Mark included:

- an experimental voice synthesizer (a forerunner of the "talking terminal". This synthesizer was linked to a terminal which was shared with other employees. When Mark needed the voice read-out he would activate the synthesizer.
- A braille printer was located near his work station. Computer instructions could be given to activate the printer and provide a braille readout of what was on the screen. The printer was shared with other blind individuals. It was coincidence that it was located near his work area.
- A high school co-op student reads him any typewritten letters or handwritten forms. If the student is not available, Mark will wait or ask a co-worker to assist him. In return for their help, Mark often assists them with their programs.
- Before training sessions begin, Mark contacts the instructor and obtains the written material. A volunteer then reads him the material. He also has access to recordings for the blind and braille textbooks.

The only other device used here is the braille writer which Mark uses to take notes.

The decision factors which were involved in the accommodation included:

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[1]Names used herein are fictitious.

- the site's tradition of hiring blind individuals.
- The supervisor's previous experience with blind programmers.
- The available technology. The experimental unit using a voice synthesizer had been developed by IBM. Mark worked with IBM representatives to test the equipment.
- Braille output was already available.

These accommodations did not require any specific justification. They required only that the right equipment be found and installed. Cost was not a factor since the equipment was already available.

As a result of these accommodations, Mark has performed productively as a computer programmer. His supervisor notes that he is very devoted to his job and wishes that "others were as good".

Five years after starting his job with IBM, Phil developed multiple sclerosis. As it became more progressive, it affected his vision. His job at the time was maintenance technician which involved doing electronic testing. After a time, he was promoted to Department Technician. There were three areas in the Department and one Department Technician was assigned to each area. Each Department Technician was responsible for teaching other employees and troubleshooting the equipment. Because of his deteriorating vision, and because the supervisor valued his role as teacher, Phil's job was modified to include more consulting to those who needed his expertise and to provide advice on troubleshooting techniques.

Presently, Phil is employed as an Education Coordinator. This job maximizes administrative duties such as setting up and coordinating employee courses for the purpose of job enhancement. Accommodations for his present job consist of IBM providing an Amigo cart for his use in moving about (his MS progressed to affect his mobility), assignment to an office near the elevator and the understanding that he will not be asked to work overtime unless he desires to do so.

The $1,200 cost of the Amigo cart was paid for out of his manager's department budget. No special justification was required. According to the EO Administrator the accommodation "was not hard to sell". The only real question which arose concerned Phil's safety and the safety of others as he rounded corners. As a solution, Phil designed, built and installed

a horn on the Amigo to alert other people that Phil was approaching. The result of this accommodation is that Phil is able to do his job without any problems. The fact that he cannot work overtime has caused no difficulties.

After functioning successfully as a blind secretary for 28 years at this IBM location, Phyllis was given an audio typing unit which was developed by IBM. This consisted of a mag-card typewriter linked to a voice synthesizer, (which she calls "Mortimer"). In order to proof what she has typed, Phyllis activates the audio typing unit and hears what is being typed. In addition to this equipment, her phone was modified by adding an extra set of buttons. By pressing the test buttons, Phyllis can tell which line is ringing and answer it. She also has access to the same braille printer described earlier in the case of accommodations for Mark. In order to receive material to be typed, Phyllis has a dictating machine which can be activated by a telephone. Her manager can call any time and dictate a letter over the phone. When Phyllis comes in, she can replay the machine and type the letter. The manager notes that this accommodation has a side benefit to him of preserving the confidentiality of information.

The only other accommodation made for Phyllis is that another secretary opens and reads her manager's mail. In turn, Phyllis handles the majority of the travel reservations for the area in which she works. Phyllis has also modified certain facets of her work environment to suit her. All files have braille markings and she has note cards in braille with key telephone numbers and addresses.

In this case, the accommodation decision was rather straightforward. The technology was available; a company representative let her supervisor know about the equipment. Phyllis was also a proven secretary who had succeeded without the accommodation. The result of the accommodation was an increase in her productivity.

PRACTICES

Recruiting/Outreach

IBM's approach to recruiting qualified handicapped individuals is best characterized by a significant investment in the development of

external job training for handicapped individuals and active participation in programs to place handicapped individuals in competitive employment. In addition to developing contacts with local community agencies which train and place handicapped people and systematic college recruiting, IBM has initiated 20 programs to train and place severely handicapped individuals as entry-level computer programmers. Working in conjunction with community rehabilitation agencies, IBM support extends from feasibility studies to assistance in student evaluation, curriculum development and placement. The aim is for each participating agency to ultimately assume full responsibility for its training program.

IBM's Work Experience Program for Deaf College Students is aimed at assisting deaf students in preparing for careers in business and industry. Conducted primarily in conjunction with the National Technical Institute for the Deaf and Gallaudet College, the program placed a total of 72 students in summer employment at IBM locations in 1981. It is not a training program; students are offered a summer position at a salary appropriate to temporary, pre-professional employment. The main value of the program is that it acquaints IBM's managers and employees with the abilities of the students, who benefit from professional work experience in their chosen fields of study.

In addition to involvement in job training, two IBM facilities in California and Arizona are actively involved in the Electronics Industries Foundation Project with Industry (EIF/PWI). This project involves electronics and related companies in a proven Training/Placement Model which brings rehabilitation agencies and employers together to upgrade the employment of handicapped individuals. IBM facilities work closely with a local Area Office of EIF/PWI which places handicapped individuals, identifies critical employment needs, and assists in the development of training programs to meet identified needs.

This active involvement in placement networks and the development of training programs for handicapped individuals sets IBM apart from many companies which merely contact community agencies and inform them of available jobs. Such systematic outreach and recruitment is part of an active process to find severely disabled individuals and assist them in acquiring marketable skills.

At the plant level, the EO Department maintains close contact with the local office of the state Office of Vocational Rehabilitation, works with local sheltered workshops, and sends job announcements to additional agencies which train and place handicapped individuals. In addition, close contacts are maintained with the National Technical Institute for the Deaf (NTID). The location also benefits from the corporate college recruiting program whose representatives seek out qualified handicapped people on the college campuses. While these sources produce a number of qualified handicapped applicants, the specialist and EO administrator are working to seek out additional sources of handicapped applicants.

Hiring

Every line manager is a "personnel Manager" at IBM. Likewise, Equal Opportunity is the function of every line manager. This observation is supported by the fact that the personnel aspects of each manager's job are an important consideration in his/her overall performance appraisal.

Given this emphasis on personnel, it is the responsibility of every manager to hire qualified handicapped individuals and assist in their upward mobility. The specialist feels that the computer industry lends itself to hiring of handicapped individuals because many of the jobs are less physical in nature. As a result, there is a major emphasis on hiring individuals with physical disabilities. Hiring of individuals with emotional disabilities was discussed very little, but the specialist noted that IBM has hired such individuals as well. Mentally retarded individuals present a challenge to hiring at IBM as the more simple assembly tasks tend to be subcontracted out.

With respect to entry level manufacturing jobs, the site looks for individuals with tolerance for the job, -- i.e., those who can be trained to do the job. Employment representatives have a general type of assignment in mind when individuals are hired. Concerning disabled individuals, the emphasis is upon whether the person qualifies for the generic job without regard to the disability. As will be seen later, a company physician specifies any pertinent medical restrictions.

Typically, employees in the manufacturing area start on the second or third shifts (evening and early morning). Because there are fewer people on these shifts, flexibility of the employee with regard to handling various work assignments is important. This has obvious implications for hiring of handicapped individuals in the manufacturing area. While an individual may be well-suited to one station, there is no guarantee that he/she will remain there. The employee may be required to handle a different assignment where the disability may be a factor.

Because of the nature of jobs at the plant, medical examinations play an important part in the hiring and placement process at this location. As a result of a medical examination, the physician may place a medical restriction on an applicant which limits placement or may exclude hiring. This restriction is reviewed by the Equal Opportunity Office, Legal Office, and Personnel Office before any applicant is rejected for employment. This review serves to ensure good sound hiring practices with regard to the handicapped. The specialist noted that generally the company is able to work around any restriction in terms of accommodation.

Training and Communicating Policy

IBM requires that each manager receive 40 hours of management development each year. One of the required modules during this 40 hours is Equal Opportunity. A portion of that training is handicapped-related, often including a discussion on accommodation. Managers are then required to conduct annual department meetings with employees in which much of the same material is discussed. Concerning the best way to sell the notion of accommodation during supervisory training, the specialist stressed that it was a business matter. "Equal Opportunity is after all, a business issue." This statement was echoed at the plant level by the observation that, as the company succeeds in attracting handicapped applicants, it will create individual problem-solving situations for managers. These will be addressed in the same manner in which a manager handles other problems. By challening managers to solve business problems, the specialist hopes to deemphasize the separate process for a handicapped individual, and emphasize mainstreaming.

One example of IBM's emphasis concerning handicapped individuals was an executive memorandum sent by J. R. Opel upon taking over as Chief Executive Officer of IBM. He called for IBM executives to strengthen the program to employ handicapped individuals throughout the world. He indicated that, "This will succeed only if you get involved personally and encourage your line managers to increase their efforts to recruit, employ, develop and advance the qualified handicapped." What is notable about this memo is that it was his first executive memo upon taking over as CEO.

Concern for Upward Mobility

At both the corporate and plant levels, this is seen as a key to the success of affirmative action efforts. Some managers may think the job is finished when a severely handicapped person is placed and accommodated. Later, the manager may incorrectly assume that the employee is well situated and satisfied. To ensure that severely handicapped employees are provided opportunities for upward mobility, managers at the site visited are required to prepare a development plan, in conjunction with the individual every 12 months. The individual's aspirations are discussed and noted in the plan, along with an indication of what is required to realize those aspirations. The specialist notes that this process is not perfect, but managers are actively working on this issue.

Links with Outside Agencies

At the plant visited, a strong recruiting link with the National Technical Institute for the Deaf (NTID) in Rochester, New York, has existed for many years. The plant has arranged for internships with the NTID and has hired some of the graduates of the Institute. This emphasis is also a general reflection of the site's focus on hiring of individuals with severe disabilities. Other links do not have recruiting as a specific goal. For instance, this plant supports many sheltered workshops by subcontracting with them. Subcontract work is recognized as having a value for training and rehabilitation, even if the individual does not move on to competitive employment. The EO administrator for the handicapped did note that although most clients will not work at IBM, they

have been a source of employment for this location. This is probably due to the long-standing relationship between IBM and the workshops.

Integrating Handicapped Persons into the Workforce

Mainstreaming is a key concept in employment of handicapped individuals. Wherever possible, IBM attempts to treat handicapped employees in an integrated fashion. One example of this is the commitment of corporate communications staff to caption their films and video tapes for hearing-impaired employees. IBM will spend the necessary money to adapt an existing film rather than isolate the employee and deprive him/her of the opportunity to benefit from the film. In another instance, an entire managers manual was put on 19 four track cassette tapes for use by blind individuals.

IBM has a high tolerance for reasonableness concerning accommodation. According to the specialist, "IBM will go to great lengths to make the employee fully productive." This is backed by the observation that to his knowledge, no accommodation has ever been turned down on the basis of cost.

ACCOMMODATION DECISION FACTORS

Like many other managers, the specialist found that it is difficult to separate accommodation from the hiring process. In fact, he commented on the sheer individuality of the entire handicapped program. Each hiring and accommodation is different and involves considerable judgement.

The real answer to the accommodation issue is "adjustability for all". The specialist conceives of this as the design of space, jobs and equipment which can be adjusted to fit, as far as possible, individual needs. When that happens, handicapped people will be just one example of such adjustability. This is consistent with the earlier theme of flexibility. The specialist noted that "the disabled want to make the adjustment to you". This observation was borne out in cases of accommodation where handicapped individuals suggested modifications of their jobs to minimize the effect of a disability.

In addition to making individual accommodations, IBM has made a major commitment to accessibility of its facilities. The Corporation has a five year plan (ending in 1983) to make buildings accessible. The plan has been implemented in several phases:

- Areas with high incidence of public access, e.g. central employment, education centers, corporate headquarters, and wherever there is a concentration of handicapped employees.
- Areas with large populations, e.g. Division headquarters.
- All IBM-owned facilities and all leased facilities.

To accomplish this, IBM prepared standards for accessibility which met or exceeded applicable state and federal standards. At the plant level, examples of significant accessibility modifications include: installing an elevator in the employment office; and, installing an elevator in the school for employees even though there were no employees in wheelchairs at the time.

Concerning the factors to be weighed when making accommodation, the specialist noted that few factors are consciously weighed. There is no distinction made as to the position in the organization of the employee being accommodated. There is also no major difference in the motivation of the company to accommodate an employee who has been with the company for many years, a new employee, or an applicant. The specialist also noted that monetary provision for accommodations is part of the normal budget process, and as such a significant accommodation can be made without special justification. It was stated by both corporate and plant officials that there is no dollar figure that has yet been found unreasonable.

Accommodations are usually paid for out of local budgets. The most appropriate budget category is used (e.g. capital, training, personnel, etc.). The specialist did confirm the existence of special funds available at a higher organizational level which would serve to take over if a particular accommodation were unusually expensive and would strain local budgets.

When asked what accommodations would be unreasonable the specialist cited duplicative personnel costs, -- i.e., paying two full-time people to do the work of one such as in the case of a full-time personal attendant. He noted that in some cases at IBM, an employee may provide part-time assistance to another employee while doing his/her primary job. This might involve having a secretary read the mail for a blind manager for example. With respect to business travel, attendants may

be paid or a spouse's expenses paid if it is necessary for a severely handicapped individual to be assisted during travel.

In summary, accommodation is part of a larger concern for treating each employee as an individual. Accommodations are made for applicants and employees alike. While each is carefully considered, there has not yet been a major problem on the basis of cost. Accommodations are made with the expectation that they will be long-term investments in an employee's career with IBM.

RECOMMENDATIONS/CONCLUSIONS

The specialist feels that because it is an individual act, reasonable accommodation cannot be clarified or defined. Moreover, in IBM's experience, accommodation is rarely a point of contention.

IBM is a major corporation with vast resources, both technical and financial. The real key to accommodation of handicapped individuals, however, is the tradition of concern for the individual employee which permeates every level of management. It is significant that a corporation as large as IBM can dedicate itself to flexibility of jobs and focus on the individual. In this case, handicapped employees are simply regarded as individuals who sometimes require certain flexibility and adjustability to perform effectively. Accommodation is viewed as part of the natural process of fitting a job to a worker, as a business process much like many other problems to be solved.

LOCKHEED MISSILES AND SPACE COMPANY

BACKGROUND

Lockheed Missiles and Space Company (LMSC) is one of ten companies which consistute the Lockheed Corporation. LMSC not only develops and manufactures the products which its name suggests (Polaris, Posseidon, Trident missile systems; heat-resistant tiles for the Columbia, etc.), but is also active in microelectronics, materials sciences, and developing solar and thermal energy conversion systems.

LMSC has approximately 23,000 employees; located in Sunnyvale, California, it resembles a small city, with its own medical facility, extensive recreational facilities, a full transportation department, and considerable interest in the routing of public transportation in the area. LMSC is very conscious of its size and its visibility in the community, and is very careful to maintain good community relationships. The company's annual revenues are in excess of $2 billion, most or all of which are from federal contracts.

There is a clear distinction between salaried (professional) workers, totalling about two-thirds of LMSC's workforce (these are largely engineers, sceintists, and data processing specialists), and hourly workers, including clerical staff, who are, for the most part, union members. The employment process is different for the two categories of workers. Hiring decisions for hourly employees are made by the employment department, while salaried personnel are employed on a project-by-project basis, with hiring and transfer decisions made by individual project managers. LMSC's personnel practices enable existing employees to bid for promotions before outside recruiting takes place, so that hourly employees often transfer into salaried positions.

LMSC has 4,300 employees with temporary or permanent restrictions imposed by the medical department. Of these, a much smaller but unknown number are self-identified handicapped individuals. No aggregated records are kept of the latter group; management estimates that less than ten percent of the handicapped identified by the firm's medical department have self-identified.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

A number of years ago, one of LMSC's top engineers was given a special assignment to look at EEO issues. He never completed it. Instead, he saw the need for an ongoing program in this area and created the Human Resources Program, of which he remains the manager. Because of his reporting level in LMSC management, it was not possible to house the organization within the Industrial Relations Department. Both the company President and he felt that the program needed to be independent, reporting directly to the President. It was set up that way and has continued in that mode until the present time, with the Human Resources Program Manager reporting now to his fourth president and attending the weekly president's staff meetings. Because of his influence within the company, he is able to work "from the top down" in addressing any problems that arise with implementing the affirmative action program. For example, prior to the visit to LMSC of the BPA field research team, the Human Resources Program Manager introduced the study at the president's staff meeting, assuring the division vice presidents that the visit was not to be a "witch hunt," and expressing the hope that managers would cooperate in allowing individual workers and supervisors to be interviewed. The receptivity and candor of individual respondents showed clearly how efficiently such communications are transmitted "down through the system." The effectiveness of the affirmative action program as a whole is attributed by the Human Resources Program Manager to the support of top management; it may also be attributed to the Program Manager's and Specialist's ability to translate that support into action.

The Human Resources Program staff consists of representatives from a number of protected groups. The most senior Program Specialist has been assigned specific responsibility for dealing with issues related to handicapped workers. She devotes a great deal of her time to such issues, though she also has overall responsibility for affirmative action statistics and other general program functions. She acts as an advocate for individual disabled employees, as a resource or facilitator when questions of accommodation arise, as a link between LMSC and community organizations working for and with disabled persons, and as a catalyst for increased hiring of disabled applicants. She also spends a great deal of time counseling employees with disabled family members.

INDIVIDUAL CASES OF ACCOMMODATION[1]

Jim is legally blind as a result of a congenital condition which, about four years ago, became severe enough to require surgery. Shortly thereafter, his vision deteriorated further, and he was faced with the prospect of being unable to continue his work as a programmer/analyst. He began to investigate a number of alternatives:

- a shift to another type of work at Lockheed. This would have meant a significant backward step in his career, given his 25 years' experience and specific expertise in programming.
- Disability/retirement. He was disappointed to find that he had not been employed at Lockheed long enough to be eligible for their disability/retirement plan.[2] The alternative, state disability insurance, would have been insufficient to support his family.
- Possible types of volunteer work that he could do, which he saw as necessary to salvage his sense of well-being and self-esteem. However, the problem of income would not be resolved in that way.

Jim was referred to the Human Resources Program Specialist, who in turn referred him to a community organization (Sensory Aids) which was likely to be helpful. At their urging he sought a second medical opinion to confirm the severity and irreversibility of his condition. LMSC paid for that consultation. Also through the help of Sensory Aids, Jim discovered a possible solution that would allow him to retain his current job: a machine which projects an enlarged image of written material (between 3x and 45x magnification) and a high contrast positive/negative image on a 12" diagonal screen.

Jim was very pleased with his discovery, as was LMSC. The company had a clear interest in helping him to continue in his job, because he possessed

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[1]The names used herein are fictional.

[2]After ten years at LMSC, an employee has the right to claim retirement benefits upon reaching retirement age or being immediately eligible from the standpoint of disability. Whether he or she would also receive disability benefits depends on the medical department's assessment of the employee's ability to work. If there is disagreement between an employee's own doctor and the LMSC doctor, a third, independent doctor is normally asked to make the decision.

valuable skills and project-specific knowledge. LMSC arranged for two different vendors to come to the company and discuss their respective machines; Jim was asked to choose the one that would best meet his needs. Cost was never taken into consideration. The cost of recruiting a new person (estimated at $6,000) would have far exceeded the $2,400 cost of purchasing the equipment, a Visualtex machine called a Voyager. His own department paid for the Voyager.

When the project was completed and Jim was being considered by a new supervisor for another project position; that supervisor was given excellent references about Jim's ability and his work. He was also told that working with Jim would require a few minor adjustments:

- Jim cannot work from a CRT terminal, but only from "hard copy";
- Jim's environment must be well-lighted;
- when Jim is away from his Voyager and must read something, a coworker must write it out in very large and clear letters, or take the time to carry it back to the Voyager; and
- Jim takes longer than most people to perform a task which requires looking for a passage in a book or scanning numerous pages of computer output.

None of these has been a problem for Jim or for his co-workers on the new project. He works as a group leader for testing programs. In the past, when a presentation was to be made (e.g., to government officials) if it required reference to written materials, someone in the work group other than Jim made it. Recently, Jim has discovered a method of conducting his own presentations by using an enlarged negative photograph of the material to be used. Jim has made other adjustments to his disability that allow him to function almost normally. He purchased a smaller version of the same machine for home use, and he uses special techniques while driving that allow him to be nearly as safe as a person with normal vision.

Margaret is a recent graduate with a mathematics degree and some computer knowledge. She was hired in 1981 through the campus interviewing process, which began in Arizona. LMSC then flew her to Sunnyvale for an on-site interview, paying her transportation, expenses, and one-half the plane fare for her mother, who accompanied her to act as an attendant. (Margaret has been confined to a wheelchair since her childhood, when she

had viral polio.) LMSC also hired a lift-equipped van to transport Margaret to and from interviews. After she had accepted a job offer as an Associate Engineer, LMSC transported her to Sunnyvale again for housing search, and a third time when she began work. When asked why LMSC undertook such a large recruiting expense, her supervisor replied that they were searching simultaneously for a large number of persons with the same skills, and that they did not consider her recruiting process particularly noteworthy.

Margaret has no work-related handicaps. She is seen as an excellent employee. The only accommodations that were necessary for her were:

- installing a ramp to the raised computer lab; this cost very little, since facilities maintenance staff performed the work. LMSC officials were not certain how they had paid for the ramp since this was considered quite routine, but guessed that it had been covered by the regular facilities budget;
- minor adjustments within the lab to make aisles wide enough for Margaret to move about;
- occasionally taking care that boxes and equipment are not piled in the hallways, which are otherwise quite wide; and
- installing a lowered public telephone; it was Margaret's co-workers, not she herself, who noticed that she had to reach up quite a distance to use it.

The decision to hire Margaret was made before any need for accommodation was assessed or considered. The accommodations were seen as inconsequential.

A more serious problem for Margaret is getting to and from work. She relies on public transportation, and there is only one accessible bus line. If, for some reason, the lift-equipped bus is not in service, she must rely on a friend to give her a ride. If that friend is not available, she calls LMSC transportation and they send a van to pick her up. Either of the two latter possibilities requires finding a third person to help in lifting the battery-powered chair, which is quite heavy. (It was noteworthy that, during this interview, the Human Resources specialist made a note to herself to inquire about having one of the LMSC vans equipped with a lift. In addition, the interview afforded the opportunity for the specialist to explain EEO policy to Margaret, and to offer her assistance should Margaret ever encounter any problems on the job.)

Ray is an ambitious young sheet metal assembly worker who is totally deaf. He applied to LMSC in late 1980 at the suggestion of his father-in-law, who is also an LMSC employee. Ray's wife is also deaf and works in another LMSC department. Ray was hired as a general factory helper, was promoted to his present position, and is likely to receive another promotion within the near future. He is currently working in a new department, as a result of a lateral transfer. This transfer was made at Ray's request so that he can remain at home to care for his children while his wife works. His new supervisor has never before worked with a disabled person and does not know sign language. They communicate well through lipreading, nonverbal signs, and written notes. (It did appear that the supervisor found the joint interview and the presence of the interpreter useful as a way of making known to Ray his willingness to help in any way he could, as well as learning more about Ray and his future goals.) Ray had no trouble finding his job, because his skills are in demand. He chose LMSC over two other job offers because of the high salary and convenient location. He has taken advantage of numerous internal training opportunities, and is anxious to continue his training. LMSC makes special arrangements and hires through an outside agency an interpreter for him during such training. The quality of the interpreters is varied, according to Ray. When he has difficulty understanding, he relies on notes taken by a classmate. On the job, Ray does not require an interpreter. He usually works alone, and his coworkers and supervisors are considerate about speaking slowly or writing notes.

Ray is a union member. He feels that the union has essentially left him alone, has failed to inform him of changes in the rules, and has criticized him when he made mistakes or didn't know the rules. He believes that they have not been active in assisting him to get promoted. Indeed, Ray's supervisor believes that the union seniority rules may be holding Ray back from getting jobs for which his ability qualifies him. In his new department, however, he works closely with the union steward, and there is some hope that the relationship might improve.

Ray's supervisor does not consider him handicapped. He has noticed that Ray is extremely quick to learn how to operate a new machine and considers him overqualified for his present position. Ray does make mistakes on the job sometimes. When this happens, his supervisor is quick to correct him; his philosophy is that a person who never makes mistakes isn't really working.

PRACTICES

Community Involvement and Outreach

LMSC officials serve on advisory boards to a number of organizations that train and place disabled individuals, as well as community organizations serving other disadvantaged groups. They officially represent LMSC on such boards as part of their job duties. However, direct referrals from such organizations or programs are hampered by LMSC's requirement that applicants have two years related work experience in order to be hired in most entry-level jobs. Because of LMSC's highly attractive wages and fringe benefits, individuals who are told to go out and work elsewhere for two years before applying for a job at LMSC very often return and ultimately become LMSC employees. LMSC's commitment to serving the community is real, and it benefits them from a public relations standpoint as well as in indirectly obtaining workers with needed skills.

Selection and Hiring

The Human Resources Program Specialist keeps in close touch with the Employment Department and has a special liaison within that department to work with handicapped applicants. That person has set internal goals for an annual number of disabled persons hired and last year surpassed that goal. A number of practices have proved effective in this regard. First, for hourly workers, the Employment Department makes the hiring decisions. Therefore, success has depended on making the persons responsible for those decisions aware of the affirmative action commitment of the company.

Somewhat more difficult has been educating individual hiring managers who make decisions regarding applicants for salaried positions. A useful technique has been, whenever an applicant self-identifies or has an obvious handicap, a practice known as "green-striping." This refers to a green mark on the outside of the folder which contains that person's application form and attachments, such as references or documents. This is a signal to follow up on that application, to determine the outcome of interviews to which the applicant is referred, and to act as an advocate for that person.

A third practice may be referred to as one of "following successes." Inevitably, some managers are more willing than others to hire disabled

persons; many have had positive experiences with disabled workers. Knowledge of which those managers are, and referral of disabled applicants to them, has made possible increased hiring of disabled workers and increased evidence (that may be observed by "less enlightened" managers) that affirmative action works. For example, Margaret's success on the job has been noted by several managers. Because of her, employment department officials feel that they are likely to encounter increased receptivity to recruiting disabled professionals. Now, in fact, some managers are coming forward to request referrals of disabled individuals, because they have become aware of management's goal of hiring them, and because they have noted the success of disabled workers in other departments.

Another practice that has contributed to this department's ability to recruit and hire disabled workers has been that of communicating frequently with community groups and training program representatives. They have met with such persons on numerous occasions and explained LMSC's hiring needs. As a result, the quality of referrals has improved.

Special Programs

LMSC has several work environments in which a number of similarly disabled persons are employed. One example is a department in which several deaf persons work and in which sign language is commonly used. Another example is found within the janitorial workforce. One janitorial supervisor has, within his work unit, quite a few mentally retarded individuals. They range from very mildly retarded persons to some that are not capable of living independently. Over the years, this supervisor has developed useful ways of communicating with these workers, including special techniques for training, discipline, and assigning them to work areas in which their disability poses no problem. The costs of the extra supervision required for these workers is at least balanced by the reduced cost of turnover. Whenever a new employee is hired at LMSC, an extensive and expensive security clearance is required; thus, it is cost-effective to hire janitors who are not likely to leave LMSC or to bid for promotions. Other benefits to LMSC of this practice are:

- these workers seem to perform as well once their 90-day probation period has passed as they did when they were under close

observation. Unlike some of their non-disabled counterparts, these janitors have not acquired techniques for "playing games" with the company working rules;

- the attendance records of these workers have been quite good; and
- LMSC is able to perform a service, enabling persons who might not otherwise be able to support themselves to support not only themselves but, in several cases, their aging parents as well.

LMSC's starting salary for a janitor is in excess of $9.00 per hour, which includes the cost of living adjustment, and there are several salary grades above that.

Accommodation

Accommodations at LMSC are made as the need for them arises and as it becomes clear that the benefits of the accommodation will outweight the costs. The vast majority of accommodations, perhaps as many as 90%, have been for existing employees who have become disabled. The primary motivation is to preserve the skills of a worker whose usefulness to a specific project and to LMSC as a whole is already documented. Another reason for the relative infrequency of accommodation for newly hired workers is that LMSC has a very low turnover rate. Retirement is the most frequent reason for leaving LMSC. As workers grow older, the need for accommodation arises more frequently.

One example of a significant accommodation that is currently being examined relates to an individual whose health is deteriorating to the point that he will soon be unable to come to work. LMSC is considering installing a remote computer terminal in his home so that he may continue his work there. Although it is anticipated that he will someday be unable to work even at home, the remote terminal is seen as cost-effective relative to recruiting and training someone to take his place.

Depending on the nature of a particular accommodation, it may be paid for in any of the following ways:

- as a direct cost to a particular project,
- out of project or department overhead,
- out of a general budget category, such as facilities maintenance,

- by a special affirmative action budget, which is controlled by the Human Resources Program Specialist and used for certain items (e.g., interpreters) which do not fall neatly into another budget category.

It is estimated that several times as many accommodations are made informally on the worksite as are made with the assistance of the Human Relations Program Specialist. Jobs are sometimes formally restructured, as long as there are persons in the same job category on the same shift with whom duties may be exchanged.

Accessibility

Buildings at LMSC are not universally accessible. There are quite a few buildings, many of them built before accessibility standards existed. Over the past ten years, LMSC has records of accessibility modifications costing in excess of $75,000. There have been numerous others for which no records have been kept. Modifications are made on an "as needed" basis. There have been no instances in which architectural barriers to individual employees have proved problematic, with one possible exception: in certain jobs, assignments are rotated so that persons work in a number of different buildings. Mobility-impaired persons in these jobs cannot work in all buildings, and so the jobs to which they are rotated must be monitored with accessibility in mind. This has created no problems, and the individuals involved are porbably not even aware that some areas are inaccessible to them. Newer buildings, and one large one currently under construction, are models of barrier-free design.

DECISION FACTORS

Qualifications of the Worker

The most frequent and most important reason for providing accommodations for an individual worker is that LMSC wishes to retain that worker, and that the worker's skill and specific knowledge are needed on a particular project. The company is not likely to undertake an accommodation that will not benefit the company, either directly or indirectly. (A number of activities, such as extensive community involvement on the part of Human Resources Program staff,

do not yield tangible benefits to the company, yet they "pay off" in terms of public relations.) However, it must be noted that, in assessing the qualifications of the individual worker, a long-range view is taken. The potential contribution of a worker (such as Ray, whose training may assist him more in a future job than it does in his present capacity) is viewed as one of the benefits of an accommodation.

Costs

Costs are taken into consideration when an accommodation is proposed, though there are no known limits to the cost of an accommodation which might be considered reasonable. One important element in discussing costs is that only out-of-pocket costs are considered. The cost of time and effort is not taken into account, whether it be planning or negotiating time or the time taken to install a ramp. This is considered part of the managers' jobs, or the jobs of the facilities maintenance workers involved. It is estimated that the cost of time and effort, if it were calculated, would be two to three times as great as the costs that have been documented.

CONCLUSIONS

LMSC officials offered a number of observations which may be useful to other companies wishing to improve their affirmative action for handicapped workers.

- The commitment of top management is essential. This commitment needs to be communicated to other high-level managers, as well as made visible to the line supervisors who make hiring and accommodation decisions;
- There is no substitute for experience. Those managers who have successfully hired and accommodated handicapped workers (or who have observed such success in other departments) are the most likely to hire and accommodate handicapped workers in the future;
- It is best to try to influence line managers directly to hire a handicapped worker and only if resistance is met, to exert pressure from above. Too much pressure too soon can cause resentment on the part of the manager, which could result in a less-than-ideal working situation for the handicapped employee;

- If it is necessary for any reason to dismiss a handicapped worker (or a member of another protected group), it may be useful to have in place a review process such as the following:
  - -- EEO officials discuss the situation thoroughly with the manager to see if there is any way of resolving the situation; and
  - -- if that is not possible, make sure that all the documentation related to the reasons for dismissal is in order;
- There are a number of conditions which make it easier for companies to hire and accommodate large numbers of handicapped workers. Some of these conditions are entirely outside the scope and influence of an individual manager. Others represent areas of possible affirmative action activity. The following were some of the conditions favoring hiring and accommodation:
  - -- large size: this means numerous employees in each job category allowing for the possibility of trading duties; in addition, large size implies budget flexibility;
  - -- growth or turnover rates high enough that some hiring is taking place;
  - -- need for skills that are in short supply in the labor market, and therefore the need to recruit actively;
  - -- flexibility in job descriptions, work rules; and
  - -- frequent communications with community groups, training programs, and government-sponsored placement efforts.
- Managers are more receptive to accommodating handicapped employees when they realize that one accident or illness could create the need for they themselves to be accommodated.

In the area of public policy recommendations, LMSC officials expressed a desire for increased efforts toward "voluntary compliance" and decreased emphasis on enforcement. They feel that it is essential to get the word out, to educate employers not only to their responsibility to accommodate handicapped workers, but also to the advantages of doing so. One very effective format for such education would be to hold a series of regional seminars, in

which the principal speakers or leaders are other businessmen -- persons who "speak the same language" as the participants. Government officials would play a facilitating role and would strongly encourage attendance at these seminars by high-level managers within all companies working on government contracts.

Attachment 1

Lockheed
MISSILES
& SPACE
COMPANY,
INC.

To: ALL LMSC APPLICANTS

Lockheed has had a policy of equal opportunity in the hiring, training, transfer and promotion of employees for many years. We have organized what I believe is an effective Affirmative Action Program, designed to insure equal opportunity for all employees. As a prospective employee I am sure you will be interested in knowing about this program.

CORPORATE POLICY

Under our Affirmative Action Program, we describe four major coporate goals.

1. To assure that all personnel policies and programs, such as employment, promotion, transfer, layoff and return from layoff, compensation, benefits, company sponsored training and education, tuition refund, and social and recreation programs will be administered without regard to race, color, religion, age, national origin, handicaps not related to job performance, or sex except where sex is a bona fide occupational qualification.

2. To originate or participate in community and government approved programs especially intended to encourage and assist minorities, women, the handicapped, and veterans of the Vietnam war in becoming qualified for initial employment or advancement.

3. To develop and implement specific results-oriented affirmative action plans at each facility, updated at least annually.

4. To work steadily toward a long range objective of having a representative number of minorities and women in all jobs and at all levels to the degree that they aspire to them and become qualified, subject to openings and non-discriminatory selection procedures.

To direct our company's Affirmative Action Program, we have established the office of Special Assistant to the President for Equal Opportunity Employment. This office is responsible for assigning program objectives and regularly measuring the results. The staff regularly monitors employment, promotions, demotions, layoffs, merit and promotional increases, wage and salary rates and job classifications. Any areas where we fall short of our planned objectives are quickly uncovered by

A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION
SUNNYVALE, CALIFORNIA 94088

Attachment 1 (continued)

ALL LMSC APPLICANTS - page 2

these regular reviews and are reported to the responsible management. The general manager of each major division is charged with the personal responsibility to see that his personnel successfully implement the Affirmative Action Program. The Special Assistant to the President is Raymond I. Schneyer, Manager of our Human Resources Programs.

Employees are kept up to date on Affirmative Action Program plans and progress through the Lockheed Star, memos, and Company and Union bulletin boards around the plant.

EMPLOYMENT OBJECTIVES AND RECRUITING

Developing a fair representation of minority and female employees throughout all levels of LMSC requires that our Employment Department work closely with our Human Resources organization. This department distributes available job lists to applicant sources such as:

Bay Area Urban League, Boricua Assistance Center, Chinese for Affirmative Action, Economic & Social Opportunities, Inc., Japanese American Citizen League, Mexican-American Community Service Agency, Resource Center for Women, San Jose Indian Center, Veterans Outreach Program, and California Employment Development Department.

Employment recruiting at schools with heavy ethnic minority enrollments helps to meet goals described in our Affirmative Action plan. In addition, when advertising we include newspapers and periodicals with heavy ethnic minority readerships.

EDUCATION AND TRAINING

Improvement of employee skills is a major point in our Affirmative Action plan. LMSC's Training organization works to develop job openings for minority and female employees and, where feasible, establish on-the-job training programs. Tests which prospective employees take before they join LMSC have been designed to measure only those skills necessary to perform the job in question.

Personal development training programs outline for each employee the path for improving his or her skills to take advantage of new job openings and promotions. We particularly encourage minority employees and women to participate in advancement training courses. Our desire to provide equal advancement opportunities for all employees is not limited to non-management jobs. We include minority employees and women in supervisor/manager training courses, such as the Lockheed Management Institute and the LMSC Supervisor Institute.

The Training group provides both day and evening courses, developed with and through the local schools and community colleges. Career counseling is offered for hourly employees to assist them in preparing for better and higher paying jobs. We also give instruction on the methods of job counseling to supervisors and group leaders. Seminars are conducted to inform all managers of their responsibilities under our Affirmative Action Program.

Attachment 1 (continued)

ALL LMSC APPLICANTS - page 3

COMMUNITY RESPONSIBILITY

Because community problems and goals involve our employees, they involve LMSC as well. We are active in community programs aimed at improving housing, education and job opportunities for minority ethnic groups and for low income persons, male and female, of all races. I wish to mention these activities briefly, because although they are not a part of the goals portion of the Affirmative Action Program, they nevertheless are LMSC activities working towards the end result of equitable treatment for all persons.

As a company we contribute to the Lockheed Corporate Leadership Fund, which annually makes substantial contributions to the United Negro College Fund and awards scholarships and fellowships to other specific colleges and universities with predominantly minority enrollment. We participate in the Consortium for Graduate Study in Management-Fellowships for Minorities at the Universities of Indiana, North Carolina, Rochester, Southern California, Washington, and Wisconsin.

LMSC is providing a leading role in the formation and operation of the San Jose G. I. Forum Scholarship Foundation, a foundation devoted to establishing scholarships for minority students (with emphasis on Spanish surname students) to attend college, and is entering into a similar role with the Society of Women Engineers to encourage more women to enter the fields of engineering and science.

In San Francisco and Sunnyvale, we have, in the past, been active in a consortium of companies operating job training centers which trained over 1,500 men and women in entry level job skills. Grass roots community organizations involved in training unskilled persons of minority ethnic groups also receive LMSC financial and/or advisory support. Such organizations include the Opportunity Industrialization Centers, the Community Center for Career Development, and Project DARE.

We participate in the National Alliance of Businessmen, the Management Council for Bay Area Employment Opportunities, the Stanford Mid-Peninsula Urban Coalition, and in Counterpart, a San Mateo non-profit corporation engaged in developing a shopping center and community building projects. As a member of the San Marcos Foundation, we belong to a non-profit corporation whose goal is the construction of quality housing for low-middle income families in Santa Clara, Santa Cruz, San Benito and Monterey Counties.

AFFIRMATIVE ACTION INFORMATION

If you are interested in more information about our Affirmative Action Program or the community programs I have mentioned, feel free to discuss them with Lockheed's employment representative.

William Rieke
President

MERCK, SHARPE, & DOHME

BACKGROUND

Merck & Company, Inc. is an international company which provides products and services for human, animal and environmental health throughout the world. The Merck, Sharp & Dohme Division (MSD) located in West Point, Pennsylvania, manufactures and markets some 150 prescription pharmaceuticals and biologicals. MSD has a total of 3,800 employees in manufacturing, marketing, and administration, including more than 800 professional representatives in daily contact with physicians, pharmacies and hospitals.

At present, MSD has a stable employment picture. Job opportunities are variable depending on the type of job. While the company is always looking for professionals, few entry level openings have occurred since early 1980. Other positions fluctuate in hiring, with the major factor being replacement. It is important to note that because the entry wage is quite high in comparison with surrounding companies and because MSD offers excellent benefits, ordinarily an abundance of generally qualified applicants can be found for most jobs at MSD.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

Insight into MSD's approach to hiring and accommodating handicapped individuals is best gained by understanding the role of several key actors. The manager, Equal Employment Affiars (the specialist in this case) is a central figure in MSD's efforts to upgrade the employment of handicapped individuals. He is responsible for the affirmative action program for handicapped individuals at Merck, Sharp & Dohme Division headquarters and facilities plus 27 branches and sales locations. He administers the Equal Employment Opportunity program, reviews and monitors Division and site affirmative action plans, administers the Division problem resolution policy, and acts as an internal consultant on related matters.

The specialist started with MSD as a messenger in 1966, progressed through the market research and service ranks, and became a quality control

inspector in 1973. After several further promotions, he became coordinator of Equal Employment Affairs in 1977 and finally EEA manager when his supervisor retired that same year.

Upon assuming the job of EEA manager, the specialist noted (in agreement with the corporate EEA director) that despite much discussion about employment of handicapped individuals, the program needed a clear demonstration -- visible to employees and to the public -- of MSD's commitment to working with handicapped persons. Though the Personnel Office had been accessible to handicapped applicants for a number of years, a first step was to make the entire site containing 15 major buildings barrier free. As a result, the specialist worked with the Engineering group and began a campaign in 1978 to make MSD a model of accessibility for handicapped individuals. The specialist noted, however, that very few wheelchair-bound individuals were employed at MSD to take advantage of such accessibility. Few severely disabled individuals with the necessary qualifications were applying for employment at the Division. In 1981, the opportunity to partially correct this situation was taken when a severely disabled individual applied for the position of environmental control technician. This placement has since been looked upon as a demonstration of how MSD feels about its employees, and as a model for employment of additional handicapped individuals.

The specialist realizes that the success of an affirmative action program cannot rest upon the hiring of one handicapped individual. However, he believes that dramatic and visible accomplishments can bring attention to the program and reflect positively on the Division. In many ways, he has taken advantage of MSD's perception of itself as a highly visible leader in the health care field. This became a way of "marketing" the affirmative action program concerning handicapped individuals. The specialist has worked with the Merck & Company EEA manager and MSD top management to institute a performance-based approach to hiring handicapped individuals. This approach is reflected in employment practices which establish proportional sampling of handicapped applicants from a general pool, as well as the adoption of goals for hiring handicapped individuals. It is also seen in manager and supervisor performance appraisals, which include specific references to Equal Employment Opportunity goals.

According to the specialist, MSD has "a way to go" in its handicapped program. Future directions include attracting other severely handicapped individuals through outreach and recruitment efforts. He also sees a need for more specific training of managers and supervisors concerning employment and accommodation.

MSD's personnel relations director feels that the Division has a moral responsibility to the community to hire handicapped individuals. In addition, he noted that hiring and accommodation of handicapped individuals is a farsighted policy which affects the morale of current employees. By hiring a handicapped individual or removing barriers to accessibility, the company demonstrates its intent to help those employees who become handicapped during employment. The director observed, however, that in the past more attention has been given to age, sex, and race in affirmative action at Merck & Company. He also noted that few severely disabled individuals apply for jobs. Given these factors, he felt that the way to emphasize employment of handicapped individuals was to ask personnel staff each month, "How many handicapped persons did you hire?" He noted that this is quite different from inquiring about how many contacts were made, or how many applications were received.

With respect to accommodation, the director called the process, "just plain common sense". He cited one instance where an individual in a wheelchair needed an electric wheelchair to move from building to building. In that case, the wheelchair was considered to be a work-related vehicle. He remarked, "If we can supply a maintenance person with a cart, why not supply an electric wheelchair for her?"

The personal relations director indicated solid support for the specialist in his efforts to upgrade employment of handicapped individuals. He also noted that his superiors are committed to the program.

The vice president of operations stressed that "we are, after all, a leader in the health care field." Given this, he feels that MSD has the resources to be a leader in employment of handicapped people. He spoke with pride about the movement to make all facilities at MSD accessible. He saw this as a logical extension of the spirit of the law. In discussing his philosophy of employment and accommodation, he noted that MSD is a performance-measured company. He reinforced the value of a performance

based system of hiring, and confirmed that affirmative action is one objective in everybody's job at MSD.

The support of the corporate director, Equal Employment Affairs, has been extremely helpful to the specialist at MSD. The EEA director not only endorsed, but encouraged the involvement of a consulting firm in planning the placement of the environmental control technician. He felt that commitment is evidenced in part by spending money in hiring handicapped people. It is important to note that as a result of the successful placement experience the director has endorsed a future budget allocation for additional management consulting services to assist with hiring and accommodation. This is evidence of the company's commitment beyond normal outreach and recruiting efforts. The specialist in this case emerges as the central and visible figure in the employment of disabled people. Upon talking with his superiors, however, it appears that their support and willingness to back him with dollars and concrete action were essential to his success.

INDIVIDUAL CASES OF ACCOMMODATION

Sally[1] was confined to a wheelchair due to ostio genisis imperfecta. This childhood condition affected bone structure and growth, leaving her quite short in stature and unable to stand for long periods of time. After graduating from college with a B.S. in biology, she searched for a job for a long time before applying for a position at MSD.

Because of her excellent qualifications for the job, the specialist saw the opportunity to demonstrate what could be done to hire severely disabled individuals at MSD, given proper preparation and reasonable accommodation. The specialist had previously been approached by a management consulting firm that could provide expert assistance during Sally's placement. Since he felt that the use of outside consultants might give the effort added visibility, the specialist convinced top management to retain the firm at a cost of $10,000. What followed was a sequence of events which lasted more than four months and involved over a dozen meetings with Sally, several MSD managers, personnel staff,

[1]The names used here are ficitious.

supervisors in environmental control, co-workers, union representatives and the consulting firm which assisted in the placement.

In addition to attending meetings with MSD representatives, the consultant performed the step-by-step placement and accommodation process. The steps included:

- a complete job analysis;
- the design of a job analysis plan;
- an evaluation of Sally's abilities;
- the design and procurement of special apparatus;
- the installation of apparatus and organization of the work area;
- counseling to Sally during initial employment; and
- information sessions with co-workers, supervisors, managers, etc.

Sally was employed by MSD as an environmental control technician for five and one-half months before being laid off in early 1982 (she was bumped by an employee with more seniority). Her job involved monitoring and testing of pharmaceutical production areas to ensure that sterile conditions were maintained. In contrast to the complex preparation of Sally for the job and MSD employees for Sally, actual accommodations were fairly straightforward and consisted primarily of modification of job duties. Specific accommodations included.

- Initially, Sally was not required to travel to other buildings and collect air and water samples. Her job duties were modified to allow her to remain in the environmental control area and perform tests.
- Sally was not required to perform one particular task: para-formaldehyde decontamination of various production areas using a sprayer which is normally carried on the environmental control technician's back.
- Sally was not required to service the laminar flow equipment (replace filters, clean plenums, check for leaks).
- An extension rod was fabricated so that Sally could reach and open a cold vault door from her wheelchair.

- A tray to hold slides for washing and staining was made to minimize any reach problems that Sally might have when using the sink. The tray was later adopted for use by all technicians.

Work surfaces were not lowered or modified in any way because Sally was able to get out of her wheelchair and sit on a standard work stool. Additional equipment was purchased or adapted so that Sally could travel from building to building in order to gather air and water samples. Equipment included:

- a motorized wheelchair (cost $2,300);
- a manual wheelchair to remain in a sterile location ($500);
- clips to connect Sally's wheelchair with a sampling equipment cart ($250); and
- special order small gowns for use in a sterile production area (cost unknown).

Unfortunately, the above accommodations were never used, since Sally was bumped from her technician position and laid off by MSD before assuming the sample gathering duties. The specialist expects her to be rehired in the near future, when another position opens up.

From her supervisor's point of view, Sally performed her assigned duties in an effective manner. She required no special supervison. Co-workers were skeptical at first, but the meeting before she was hired to discuss their concerns was valuable in gaining their cooperation. Once Sally joined them, co-workers accepted her readily and showed a willingness to help her on the job. As questions arose from other departments, these co-workers were actually her public relations agents.

Sally was pleased with the job. She felt that she was treated fairly by her supervisor, co-workers, management and the union. Although a few of the accommodations proved to be unnecessary, she acknowledged that she was reluctant to be too demanding about accommodations and was likely to try things the hard way before asking for help.

According to the plant chairman of the union that was involved in the placement, Sally's placement was successful. He remarked that more handicapped people should be given the opportunity to be employed at MSD.

As a result of being involved in Sally's placement he felt that the division, its employees, and the union were anxious to do it again. This rather complex individual accommodation shows the value of careful preparation for placement, anticipation of accommodations and early involvement of all concerned parties.

In sharp contrast to the detailed accommodations described above for Sally, the accommodations made for Fred as coordinator of audio visual services are almost non-existent. His job calls for providing audio visual equipment and materials in support of internal MSD training. Job duties consist of loaning films, bookkeeping, correspondence, billing, and other administrative tasks.

Prior to joining MSD 13 years ago, Fred developed polio. As a result of the polio, he had a tracheotomy. He now speaks by holding his finger over an opening in his throat. This results in a hoarse tone to his voice and low volume. Fred performs his job with no noticeable accommodations, except an extension for his phone so he can rest it on his shoulder. Most people he deals with over the phone have become accustomed to his voice. New people may need to ask him to repeat something, but that presents no problem. A speaker phone was provided at one time, but Fred did not use it long because the background noise in his office that was picked up by the speaker phone was disruptive to listeners. In summary, Fred and those around him have adapted well to his disability and he is able to perform his job with little or no accommodations.

The job of tablet maker required George to operate three machines which compressed powder into tablets at the rate of 2,000 tablets per minute. In addition to ensuring a proper flow of granulation, fixing the machine if it breaks, performing weight and hardness tests, checking product codes and doing related paperwork, the job required that George load 100 pound containers of tablets called "blue cows" onto pallets. After each run of a particular product, machines had to be moved to a set up room using a hydraulic jack. There the machines were torn down, cleaned and retooled for the next run.

After a back injury, George found that he could no longer lift the "blue cows" onto the pallets. Since his co-workers generally did not relish the task of tear-down and retooling, they did not have any difficulty

with George concentrating on that aspect of the job. After trying George at the limited task of tear-down and retooling, his supervisor found out that George could accomplish the process more efficiently than had been possible in the past. This accommodation resulted in the creation of a new specialized position of tablet maker technician, involving inspection and maintenance in addition to tear-down and retooling. The result has been an overall increase in productivity in this department. Union representatives were satisfied with the new job description so long as George did not take any overtime work away from the tablet makers.

PRACTICES

Recruiting

Recruiting of handicapped individuals at MSD is done on an individual basis. However, the specialist, the manager of professional employment, and the manager of non-exempt employment have also sought local sources of qualified handicapped applicants, educated them as to MSD's manpower needs, and encouraged referrals. The specialist has developed a list of recruiting sources. Presently, it includes local offices of the state Bureau of Vocational Rehabilitation, a local school for the blind, National Industries for the Blind and several rehabilitation centers and sheltered workshops in the area. The manager of non-exempt employment has found the state Bureau of Vocational Rehabilitation to be the most successful source of handicapped applicants. By maintaining contact with local BVR offices, he has recruited some disabled clients for non-exempt jobs.

The effectiveness of the sources in refering qualified applicants to MSD however, has been somewhat inconsistent. One agency sent a counselor to spend the greater part of a day meeting with the specialist, learning of job openings and their requirements, and becoming familiar with MSD employment practices. After returning to the agency, he sent the specialist a computer printout containing all the clients served by the agency who were looking for jobs. This was naturally not very helpful to the specialist, who expected specific referrals of individuals meeting MSD requirements.

At the professional level, recruitment of handicapped individuals is accomplished, in part, during the course of corporate college recruiting. College recruiters are aware of affirmative action requirements and seek out qualified technical and professional applicants with disabilities. Recruitment of handicapped professionals at the local level is more difficult. According to the manager of professional employment, private state agencies have not provided many referrals. Instead, he focuses on individual recruitment of handicapped professionals through contacts made by current employees and personal contacts.

Hiring

The hiring picture at MSD is presently affected by the fact that there are few openings for hourly jobs, and there is a backlog of 4,000 - 6,000 applications on file. For the most part, applicants must be highly qualified for available jobs. Given these conditions, MSD has modified its hiring selection process to ensure that qulaified handicapped applicants are represented the sample of candidates to be considered for jobs.

At present, as applications are made to the company, the forms are placed in a file for women, minority, handicapped, and other applicants. When a job becomes open, applicants are selected from each file on a random basis in the proportion of 38% women, 15% minority and 5% handicapped. The proportion of women and minorities is in accordance with a conciliation agreement developed in cooperation with the Office of Federal Contract Compliance Programs, U.S. Department of Labor. What is unique here is the inclusion of 5% handicapped applicants in the sample. According to the specialist, this was done as a voluntary measure to ensure that handicapped applicants were being given a fair opportunity to be hired. The 5% figure was a general estimate based on prior experience.

In addition to a proportional sampling of handicapped individuals from an applicant pool, the hiring process allows for individual handicapped applicants to be considered for job openings without being selected at random from the applicant file. This selective recruitment and consideration process helps to increase the chances of a personnel staff member reaching his/her goal of 5% handicapped new hires. As discussed earlier, the hiring

process is best characterized by a 'results orientation'. As the specialist puts it, "Merck is an MBO (Management by Objectives) company and we are used to setting goals".

Accommodation

The most dramatic aspect of MSD's approach to accommodating handicapped individuals is its commitment to accessibility of all faciliites. Shortly after assuming the position of EEA manager in 1977, the specialist noted that while the Personnel area was accessible to handicapped applicants, other areas within the Human Resources Building were not. Entrance accessibility was the primary need at office and production facilities. He also noted that there was insufficient access to common facilities such as the cafeteria, conference rooms, and training facilities. He concluded that a piecemeal approach to accessibility (one of accommodating handicapped individuals as they were hired, and as they needed to gain access to a particular building) would involve repeated justifications to management and the Engineering Department.

Instead, the specialist prepared a plan to make the entrances of all 15 major MSD facilities accessible. Common areas and areas frequently used by handicapped employees were targeted for more extensive modifications. Accessibility was sold to top management as a policy that a company whose motto is "Pride in Quality" would naturally adopt.

As a result of the Specialist's plan and complete support of top management, accessibility of MSD's facilities became a source of pride among employees and managers. The Engineering Department estimated that the total cost of accessibility was $72,000. The effort to create an accessible environment has not ceased with these changes, however. In 1979 and 1980, a sterile production facility and MSD administrative offices were constructed, barrier free. Additional changes at existing buildings are being made as the need arises.

Training

Training concerning the employment and accommodation of handicapped individuals is integrated into ongoing EEO training. Managers and

supervisors are briefed concerning corporate and MSD policy and updated on any recent developments. Several outside organizations have made presentations concerning disabilities, films relating to handicapped individuals have been shown and personnel, and EEO staff attend meetings such as the Annual Meeting of the President's Committee on Employment of the Handicapped and local training sessions.

In response to a need for more formalized training in the EEO area, Merck & Company has developed a highly successful "Phase III" training program. Although this training program focuses primarily on women and minority individuals, consideration is being given to developing a compatible segment concerning handicapped individuals.

Communicating Policy

At MSD, the commitment of top management to hire and accommodate handicapped individuals is communicated in policy statements and in recruitment and application materials, and by inclusion of articles and statements in MSD publications. More importantly, MSD policy is demonstrated by such visible practices as extensive accessibility modifications ongoing efforts to ensure the handicapped people are actually hired, and notable instances of carefully prepared placements and accommodations of severely handicapped individuals. It is felt that these types of actions communicate MSD's policies are perhaps more effectively than statements of intent.

Use of Outside Resources

With the notable exception of the provision of outside technical assistance in the placement of Sally as an environmental control technician, and the budgeting for additional consultants, MSD relies on internal resources when making accommodations for employees. The division has ample engineering expertise and materials to fabricate custom devices. Other items are purchased as needed.

DECISION FACTORS

Concern for Individuals

Each of the key actors described above were asked about the factors which were weighed when making an accommodation. What emerged was an informal decision-making process which revolved around MSD's humanitarian concern for handicapped individuals and a strong feeling of responsibility for current employees. Current employees are viewed as a member of the family.

One indication of the Division's concern for 'family members' is its rate retention program. Under this program, an employee with 25 years of service who becomes disabled can be placed in a lower rated job classification and retain his/her former hourly base rate. Employees with less than 25 years of service will retain their former hourly base rate if the illness or injury was occupational. This, coupled with a well established policy of bumping to lower classifications introduces a number of options into the accommodation process. If the individual cannot be accommodated at his/her present job through modification of job duties or adaptations of the work environment, he/she can be transferred to a lower rated job which minimizes the effect of the disability.

Aside from the 25-year requirement in the rate retention policy, an employee's length of service does not affect the willingness of MSD to make an accommodation or the extent to which the Division will go. On the other hand, the specialist did acknowledge that the level of the employee affects the extent of the accommodation.

When asked about accommodation for handicapped patients, the Corporate Director of EEA replied, "We make accommodations for everybody". There are no corporate guidelines for reasonableness. Every case is treated on an individual basis and the implication is that very few, if any, accommodations are turned down because of cost. Most accommodations are made informally and fall into the category of normal business decisions.

Budgeting Factors

The Corporate EEO director noted that most accommodations are not paid for out of the operating budget of the department. If they involve

purchase of equipment, such as a motorized wheelchair, this is treated as a capital expenditure and is treated the same way as the purchase of a vehicle. 'Non-equipment' forms of accommodation may be funded out of training budgets or personnel budgets. The management consulting fee to place Sally came out of a personnel line item for consultants. According to the corporate EEA director, there is no specific budget for accommodations at the corporate level, but there are certain discretionary funds which can be tapped if an accommodation could not be paid for through local budgets. Thus, accommodation is not a separate process with separate budgets, but the act of providing new and longstanding employees equipment, training, and other support which they need to be productive.

Work Rules

The ability of management to modify jobs is limited by work rules which are included in union contracts. If modification of job duties is agreed upon by co-workers and does not result in the employee performing the work of a lower pay grade, then the accommodation is likely to be successful. This is best illustrated in Sally's case. She was allowed to restrict her work to processing the test samples rather than gathering of samples. The accommodation was successful because her supervisor, co-workers, and union representatives agreed that it was reasonable. Anticipation of concerns and negotiations with all involved parties seems to be the key to modification of job duties.

There is, however, an overriding concern about precedent at MSD when a formal change is made. In one notable example of accommodation, a leg amputee was granted "superseniority" -- that is, he could not be bumped from his position by a more senior person. Unfortunately, the individual proved to be somewhat lax in his performance and all parties felt that a poor precedent had been set. The possibility of super-seniority was raised in connection with Sally's placement, but neither she nor management requested that it be granted.

The other major concern of union representatives is the possible effect of accommodation on the distribution of overtime. Since the person with the lowest amount of overtime gets first option for additional overtime, a concern arises about a handicapped individual's inability

to do the overtime work. Without any modification of the procedures, the handicapped individual would always be given first option for overtime. In Sally's case, it was agreed that her inability to do overtime work would be considered to be a refusal of overtime. As a result, she would be charged the time and not remain forever on the bottom of the overtime list.

CONCLUSIONS

This case discusses what can be done to hire and accommodate handicapped individuals given a committed specialist and the support of top management. The specialist acted as the focal point for company efforts and keeps the issue of affirmative action for handicapped individuals on the minds of employees, managers and union leadership.

It should be noted that dramatic events, such as making all facilities accessible and placing a severely disabled individual at significant cost and commitment of much personnel, are far easier to achieve in a company which is profitable and has a quality image of itself. The case also shows that such events can be considered as investments in employee morale and community good will. These investments have returns in areas such as productivity and recruiting. As one manager put it:

> "We've heard from others that the new employee, who is disabled is doing an excellent job...her sense of pride about her work is great...she has a terrific personality ...we are open to the idea of employing more handicapped people...there seems to be more than a hidden benefit to all other employees."

RAYTHEON COMPANY

BACKGROUND

Raytheon Company is among the nation's 100 largest industrial companies. Through acquisition and internal growth, sales have doubled in the past five years. About one-third of total 1981 sales of $5.6 billion was for U.S. government end-use. A diversified, international, technology-based company, Raytheon is engaged in five business areas: Electronics, Aircraft Products, Energy Services, Major Appliances, and Other Lines.

Headquartered in Lexington, Massachusetts, Raytheon has 11 divisions and eight major operating subsidiaries with more than 80 plants and laboratories in 26 states in the United States. Major overseas subsidiaries and affiliates are located in six countries, principally in Europe.

In 1963, Raytheon was the recipient of the "Large Employer of the Year" award by The President's Committee on Employment of the Handicapped. For many years, the company has demonstrated its commitment to the employment of handicapped individuals by its own hiring practices and by becoming involved in community efforts to train and place qualified handicapped individuals in competitive employment.

Through the personal commitment of several key managers, the company has been a driving force in the establishment of a program which links 105 companies or hiring locations with over 145 rehabilitation resources in the state. Recently, Raytheon has been in the forefront of the development of a program to train electronic assemblers and test technicians for jobs in the electronic industry.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

The Corporate Equal Opportunity Office is staffed by a Corporate Director of EEO and Public Affairs, a Manager of Compliance Programs and two Senior Specialists in Affirmative Action Programs. Working closely as a team, they are responsible for implementing corporate EEO policy, and giving support and direction to Affirmative Action Programs Managers in

each of the 80 plants and laboratories across the country. Many of these AA Program Managers have multiple responsibilities which may include employment, compensation, and related functions.

Even though Raytheon's organizational structure is decentralized, each of the AA Program Managers is supported by the Corporate EEO Office in matters related to EEO and affirmative action. Corporate EEO staff provides technical guidance and policy direction to all facilities as needed to assist them in performing their EEO functions.

Because Raytheon originated in Massachusetts and feels a sense of responsibility as the state's largest private employer, the corporate EEO staff commits considerable energy and resources within the state to benefit handicapped individuals. Corporate staff share a desire to use their business skills to create models of cooperation between the private and public sectors. EEO office staff have become involved with the state vocational rehabilitation agency, private rehabilitation agencies, state task forces, mental health agencies, and foundations. The goal of this involvement is to create models of cooperation which can be replicated in other states and involving Raytheon plants and laboratories.

The Manager of Compliance Programs in the Corporate EEO Office has made a major commitment to upgrading the employment of handicapped individuals in Massachusetts through improved training and job placement efforts. Before coming to Corporate Headquarters in 1979, he was employed in various industrial relations and managerial capacities for 24 years. He requested his present assignment because of a long-standing interest in civil rights and because the job offered the opportunity to make an impact in this area.

Since 1979, the Manager of Compliance Programs has become increasingly involved in Projects with Industry (PWI). He presently serves on the project's Executive Advisory Board (EAB) which gives overall policy direction and support to the program and works to create a viable network for information and placement of handicapped individuals. The observation that high-tech industries had a surplus of jobs but few qualified handicapped individuals to fill them led to the formation of the project's Executive Committee on Training, which was charged with identifying employment needs. The Executive Committee on Training, composed of a small group of dedicated industry and rehabilitation representatives with support from PWI staff,

planned and designed a training curriculum for electronics assemblers and test technicians. The committee selected an agency to host the program, found an instructor, raised money for equipment, and continues to monitor the progress of the program. In its second year of operation, the program has graduated handicapped individuals into competitive employment as electronics assemblers and test technicians.

In addition to his leadership role in PWI, the Manager of Compliance Programs serves as chairman of the Massachusetts Rehabilitation Commission's Advisory Council. As such, he brings an industry perspective to the training and placement of state VR clients. He also serves on a statewide Task Force on Supported Work for the Retarded and is on the Board of Directors of a center for emotionally troubled adults.

INDIVIDUAL CASES OF ACCOMMODATION[1]

Martha is an Associate Software Engineer at Raytheon's Missile Systems Division in Bedford, Massachusetts. As such, she is responsible for writing computer programs and preparing related documentation. The bulk of her work involves use of a computer terminal at her work site.

After teaching mathematics for five and one-half years, Martha decided to apply her skills to the area of programming and started working at Raytheon in 1978. One year later, her eyesight began to deteriorate to the point where she was declared legally blind in 1980. Her visual impairment leaves her with no depth perception. As a result, she cannot drive at night. More recently, she had a part of one foot amputated which caused her to use crutches for several months. Now, she does not need to use crutches and her eyesight is stable, although her condition could deteriorate further.

The accommodations made for Martha include:

- She is allowed to rearrange her hours so that she comes to work and returns home during daylight hours.

[1]The names used here are fictitious.

- During bad weather, she may remain home and do paperwork if she is not required to use the terminal that day.
- She is not required to do lifting or carrying on the job.
- The supervisor gave her his computer terminal.
- Co-workers volunteer to pick up her computer printouts at the main computer when they pick up theirs.
- When she travels, her supervisor makes an attempt to pair her with another employee.
- The company purchased a small magnifying glass for her use.

Martha's excellent relationship with her supervisor and co-workers seems to be a major factor in her successful accommodation. First, her supervisor believes "that handicapped people should be made to feel that you are treating them like everybody else". As a result, the supervisor did not single her out or force any accommodation upon her. Instead, he observed her work and offered flexibility in hours and job duties. At the same time, he did not demand anything less in the way of performance. As a result of this relationship, most accommodations were arranged informally and by mutual agreement. They did not involve significant cost or special decision-making.

Martha herself has been a major factor in her own accommodation. Most of the time, she does not consider herself to be handicapped. She says, "I have difficulties, but lots of folks have difficulties". Occasionally, when her eyes hemorrhage, she has difficulty seeing the screen on the terminal. In those instances, she says you have "do the best you can".

Her co-workers were very supportive and offered assistance when her foot was amputated and whenever her eyesight got temporarily worse. According to her supervisor, the co-workers treat her as a person and ignore her handicap. Martha is a satisfied and productive Raytheon employee. She has received her regular salary increases and requires no additional supervision.

Carol works as a senior clerk in the communications department at Raytheon's Missile Systems Division. The department is responsible for maintaining and installing communications equipment in Division facilities. Her duties include billing, filing, assignment of extension numbers and answering the phone.

After graduating from a special school, Carol tried for several years before she found a job with Raytheon. Her disability, Marie Tooth Syndrome, is a progressive neuromuscular disease. As a result, she uses a walker for short distances and a wheel chair if longer travel within the building is required. Her disability affects the strength and dexterity of her arms and fingers. While she can answer the phone, file and make notes, she cannot type.

Accommodations for Carol consist of the following:

- Another clerk does any typing. Since she was the first person to fill a newly-created job in 1979, there was no precedent for typing in the job. According to her supervisor, had she been able to type, it would have been part of the job, but it causes no problems for another person to do the typing.
- She has rearranged her workplace to minimize reaching and other unnecessary movement. This includes using folders and bins to give her easy access to often-used information.
- A nearby bathroom was modified and grab bars were added. This came about when she requested the accommodation after falling down several times without the grab bars. The cost of the bathroom modifications was between $1,500 - $2,000.
- Carol was assigned a special parking space.
- On some occasions, her supervisor meets her at the entrance to the building with her wheelchair so that she can travel more easily to her work site or to another part of the building.
- A small section of non-skid carpet was installed at her desk.

Aside from the accommodations noted above, no other changes or other adjustments were made. She was offered a speaker phone, but turned it down. According to her supervisor, she wants to be as close to normal as her physical handicap will allow her to be.

It is interesting to note that Carol tended not to ask for accommodation. She felt that she did not want to make demands and become a nuisance. In several instances, the supervisor had to ask her what she needed, or observe her difficulty in doing something and offer an accommodation.

After graduating from college and working for a year as a project manager for a community action agency, Ralph decided to search for a job

in industry. His job search was quite direct. He wrote to over 100 companies, told them he was blind, and inquired about available jobs related to his background. He was met with rejection by every company except Raytheon. At the Lowell Massachusetts plant, a manager reviewed Ralph's application and was not deterred by his blindness. (Perhaps because the manager's mother was blind.) During the initial interview, Ralph's blindness was not discussed much. The manager seemed to be satisfied that Ralph had the necessary qualifications.

Ralph's first job with Raytheon involved follow-up work to ensure that electrical components were delivered to the production site on time. This required that he have updated information at this fingertips. To accomplish this, Ralph and his wife spent several hours per week placing shipping and buying information onto note cards in braille. By doing this additional work at home, Ralph was able to perform his job effectively.

Ralph's present job as an electrical buyer consists of purchasing resistors and capacitators for missle systems at Lowell. These components are then assembled onto circuit boards. The job requires that he inform suppliers of requirements, negotiate price, and confirm delivery. A large portion of the job involves telephone or face to face contact with suppliers and making judgements about price or the ability of the supplier to perfo m in a timely fashion. Paperwork is a relatively minor part of the job. Each buyer has a secretary whose responsibility is to type correspondence, file, and answer the phone.

In Ralph's case, accommodations include:

- Because the previous secretary left along with the former buyer, Ralph was permitted to hire his new secretary on a temporary trial basis. It was felt that since the secretary would need to work closely with him he should be given an opportunity to see if she was the right person for the job.
- Ralph's secretary reads information from requisition forms to him. He then makes notes in braille and attaches these notes to the form. This conversion of information allows him to refer back to the forms.

- The secretary makes notations and adds information to requisition forms as needed. If the secretary is sick, Ralph waits until she return or asks a co-worker for assistance.
- Before occasional travel, Ralph must make detailed arrangements, such as having somebody meet him at his destination.
- Ralph's wife reads material to him during training sessions.

What is remarkable is the absence of adaptive equipment at Ralph's work site. This is due in part to the fact that requisitions are still made on written forms rather than displayed on a computer terminal. Should buying be computerized, Ralph would probably require a talking terminal or other voice synthesizer. Ralph did try using an Optacon, but found it too slow for his needs.

Ralph took a significant role in accommodating himself. By converting information to braille, he was able to minimize costly and unnecessary modifications. Ralph's first supervisor was sensitive to the needs of blind individuals. A secretary was willing and able to work closely with him to process paperwork. Management is supportive of hiring handicapped individuals. The theme of responsibility for the individual was mentioned several times.

According to Ralph's supervisor, there is a beneficial side effect to Ralph's presence and excellent performance. The supervisor remarked that Ralph challenges other workers to better use their talents.

According to Ralph, "There is no reason why a capable blind person cannot buy in the business today". He notes in addition that electrical buying is well suited to blind people because items are easily specified and involve standard terminology. Mechanical buying, on the other hand, requires looking at a blueprint to understand fully the nature of a product.

PRACTICES

Recruiting

Raytheon's major efforts to recruit handicapped individuals in Massachusetts are focused on active participation in the Massachusetts Project with industry, part of a ntaional network initiated by the Electronic Industries Foundation (EIF) to facilitate the employment of disabled persons.

In Massachusetts, an EIF/PWI area office director and employment specialist are in contact with 105 companies and hiring locations representing predominantly electronics and other high technology companies. They also work closely with over 145 agencies and individuals who train and place handicapped people. Job openings from participating companies are matched with data sheets on disabled applicants referred by rehabilitation resources. The data sheets of qualified candidates are then forwarded to participating companies. Office staff follow up each interview to monitor results. The employment specialist may also circulate a data sheet among selected companies to encourage consideration of a specific candidate should a job become available in the future. In addition, area office personnel send job market profiles to rehabilitation agencies to help them plan training related to area employment demands.

Raytheon plants located in the project's geographic area (Eastern Massachusetts) participate in the PWI-network. The Corporate EEO Office has played a major role in introducing the project to plant representatives. Jobs of handicapped individuals placed at Raytheon include: electronic technician, electromechanical assembler, and clerical support.

EIF/PWI's placement network is viewed by Raytheon's compliance manager as the best way in which the company can have an impact on employment of handicapped individuals. This successful model of private and public sector cooperation is seen as important in helping other companies understand what private initiatives are possible.

In order to assist Raytheon plants and laboratories in other states develop targeted recruitment strategies, the Corporate EEO Office also works with plant EEO and personnel representatives to identify local agencies which train and place handicapped individuals. They provide ongoing support and training as needed to EEO representatives in all Raytheon plants.

Hiring

Raytheon's Corporate employment policy requires a hiring plant to inform both the Corporate Medical Director and the Corporate EEO Director

before a decision is made to reject an applicant for medical reasons. This allows a review of the medical examination findings and a determination that reasonable accommodation has been explored. At the same time, corporate representatives can inquire whether other job openings have been explored with the applicant. The Manager noted that the infrequent rejection recommendations are based on a determination that the applicant would incur a health risk, or that the placement would be unsafe to the applicant or other workers. In most of these cases, a more suitable job within Raytheon is found for the applicant.

The Role of an EEO Committee

According to the Manager, an EEO Committee in a plant can be an effective way to focus attention on employment of handicapped individuals. Within one Raytheon plant, the EEO Committee is headed by a disabled software engineer. There is also a subcommittee on the handicapped which helps heighten the awareness of managers and employees. The Committee and its subcommittee serve to:

- make recommendations concerning accessibility and accommodations;
- comment on the entire EEO program;
- prepare an annual report on EEO activities;
- place articles in the plant newsletter; and
- assist in the process of inviting handicapped individuals to identify themselves and benefit from Raytheon's affirmative action program. (On several occasions, handicapped employees contacted members of the EEO committee and discussed identifying themselves.)

The Compliance Manager feels that an EEO Committee can make a valuable contribution. He also recognizes that, due to local personalities and different ways in which EEO has evolved, the success of an EEO Committee may vary from plant to plant.

Accommodation of Alcoholic Employees

The Compliance Manager considers Raytheon to have an effective policy with respect to problem drinkers. As detailed in Attachment 1, Raytheon regards alcoholism as an illness and as such not itself a cause for

discipline. Professional assistance is offered to each employee who is a problem drinker provided that he or she demonstrates a sincere effort to overcome the illness, observes company rules and regulations, and performs work in a satisfactory manner. Training is provided for all first line managers concerning alcoholism and drug abuse and the availability of the alcoholism rehabilitation program.

Training/Communicating Policy

Every plant's EEO representative is responsible for internal dissemination of Raytheon's affirmative action policy. Formal EEO training, including training on the handicapped affirmative action program occurs at the plant level. EEO representatives are encouraged to develop locally effective programs. Corporate EEO staff provide technical assistance to these representatives and plan special programs such as the following:

- the corporate EEO director addresses managers during Advanced Management Development;
- representatives from the National Technical Institute for the Deaf were invited to speak to all employment managers from Raytheon plants in New England;
- representatives from the Massachusetts Project with Industry have addressed EEO managers and employment representatives about the program;
- the corporate EEO office disseminates materials on employment and accommodation prepared by Harold Russell Associates, Inc. acting as consultants to the company.

DECISION FACTORS

According to the Compliance Manager, accommodation of handicapped employees is generally an informal process which takes place at the plant level. The Corporate EEO office becomes involved if there is a problem or if information or technical assistance is required. According to the Manager, accommodations are usually arranged at the plant level without special decision-making, and are rarely refused.

Accommodations are paid out of appropriate plant accounts (e.g., capital, training, personnel, etc.). The Manager feels that, as programs such as PWI are successful in training and placing greater numbers of severely handicapped individuals, the need for accommodation will become greater. During an investigation of an individual case, it was noted that budgets connected with manufacturing activities are closely controlled and tied to profitability. Accordingly, managers connected with manufacturing would benefit from some mechanism allowing relief from the cost of accommodation involving expensive equipment. The Compliance Manager proposed a specific federal policy (outlined below) which addresses this need.

CONCLUSIONS

When asked about recommendations for federal policy-makers concerning hiring and making accommodations for disabled persons, the Compliance Manager offered the following personal suggestions:

1. The federal government should include a line-item covering accommodation in proposal forms and instructions for large procurement contracts. Proposal instructions would require that a small, fixed percentage of the total cost of a contract would be set aside to fund accommodations involving the purchase of capital equipment in excess of $500. Equipment thus purchased would be the property of the federal government. When the contract was completed, the contractor would either buy the equipment or turn it back to the federal government. The government could then turn the equipment over to the state Vocational Rehabilitation Agency for use by its clients. This line-item would be reserved for accommodations classified as a capital expense and benefitting a handicapped person directly assigned to work on the contract. By using a fixed percentage of the proposed contract price, all bidders would be on an equal competitive basis. Most importantly, this would remove any disincentive on the part of a manager to make an expensive equipment accommodation.

2. The Office of Federal Contract Compliance Programs (OFCCP) should consider developing a set of guidelines to be used by Employment Opportunity Specialists (EOSs) and contractors in assessing an accommodation. A series of questions would be posed during consideration of an accommodation. These questions on factors would serve to guide all parties through a logical process of consideration of all alternatives. Questions that might be included in the guidelines include:
   1) Will the accommodation allow the handicapped individual to attain acceptable levels of productivity?
   2) Can it be demonstrated that the accommodation has an adverse effect on business? (undue hardship due to effect on productivity)
   3) Can it be demonstrated that the business cannot afford the accommodation? (undue hardship due to financial cost and expenses)
   4) Does the accommodation conflict with a valid federal or state law, regulation or standard impinging on job requirements, e.g. OSHA or architectural standard?
   5) Does the accommodation conflict with a valid collective bargaining agreement?
   6) Is the accommodation a reasonable investment in the employee given:
      a) the value of the employee to the organization (monetary or otherwise)?
      b) the likely time the individual will spend in the job and future jobs requiring the same accommodation?
   7) Will the accommodation enhance the ability of the organization to recruit individuals with similar handicapping conditions?
   8) Is the accommodation likely to jeopardize the safety of other employees?
   9) Is the accommodation usable in the event the handicapped employee is promoted or transferred to another job/worksite?
   10) Are there any alternatives to the accommodation?

Raython illustrates how a major corporation made a major commitment to the establishment of a system for recruiting and training handicapped individuals. By becoming involved in a network of employers and

rehabilitation agencies, Raytheon was able to implement effectively its affirmative action program for handicapped individuals. The company's commitment stems from a long tradition of involvement with handicapped individuals, a dedication to stimulating private-public cooperation, and the willingness to devote considerable resources, both time and money, to help make it happen.

Raytheon officials feel that more effective recruiting and hiring practices will bring increased numbers of severely handicapped individuals into the work force. As this happens, accommodation will become more important, and federal assistance in facilitating accommodation will be needed.

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Attachment A

RAYTHEON

INDUSTRIAL RELATIONS
POLICIES AND PROCEDURES

PAGE	FILE CODE
1 OF 4	37 1001 510
REVISED ISSUE DATED	EFFECTIVE DATE
April 18, 1962	April 16, 1965
AUTHORIZED BY	
V. P. - Industrial Relations	

SUBJECT: PROBLEM DRINKERS

Distribution: All U. S. Locatior

1. POLICY

The Company regards alcoholism as an illness and as such it is not in itself a cause for discipline. Therefore, it is the policy of the Company to offer professional assistance to each employee who is a problem drinker, and to grant him retention in employment provided he faithfully demonstrates sincere effort to overcome the illness, observes Company rules and regulations, and performs his work in a satisfactory manner.

2. APPLICATION

2.1 Detection and Referral

Whenever an employee's work, attendance, or relationship with his co-workers and Supervisor falls below acceptable standards and the use of alcohol is known or suspected, the Supervisor shall immediately notify the local Industrial Relations Manager of his suspicion. The employee will subsequently be referred to the Plant Doctor for determination of the nature and severity of his problem.

2.2 Determination of Appropriate Action

Following diagnosis, the Plant Doctor and the local Industrial Relations Manager will confer with the Supervisor to discuss the probability of success with rehabilitation, and will outline their recommendations.

2.2.1 Retention in Employment

Retention in employment while the employee is not performing his job in accord with acceptable standards will be at the discretion of his immediate Supervisor. It will be conditional upon:

a. The Plant Doctor's assuring the Supervisor that improvement in attendance and/or job performance can reasonably be expected.

b The employee's agreement to pursue one of the courses of treatment advised by the Plant Doctor.

c. The employee's faithful demonstration of improved attendance and/or job performance.

2.3 Follow-up

Periodically during treatment the local Industrial Relations Manager and the Plant Doctor will confer with the Supervisor and will keep him informed as to the progress the employee is making in his rehabilitation. The Supervisor in turn will notify the local Industrial Relations Manager of any change he notes in the employee's work performance and attendance. Adverse changes will be reported immediately.

3. RELATED INFORMATION

3.1 Conduct During Rehabilitation

While problem drinking is not in itself to be considered a cause for discipline, neither is it to be considered as justification for misconduct. The Supervisor will in all cases apply the usual disciplinary procedures if the employee violates any Company rules and regulations which normally require that disciplinary action be taken.

3.2 Maintenance of Confidential Information

It is expected that all parties concerned in a specific problem drinking case will maintain all information relative to it in strict confidence.

3.3 Recognition of Problem Drinker

While it is impossible to provide any specific data that will guarantee the ability of the Supervisor to differentiate between the social drinker and the problem drinker, the following lists a few signs which are indicative:

3.3.1 Consistent absence or tardiness on Monday morning, or on the day after payday.

3.3.2 Frequent occurrences of leaving early on Friday afternoon.

3.3.3 Unexplained disappearance from an assigned post during the work day.

3.3.4 Recurring excuses for absences due to minor illness, and frequent off duty "accidents".

3.3.5 Personality changes in previously good worker, marked variation in mood and disinterest in work.

Note: All of the foregoing language is also contained in the General Manual under the policy bearing this same title. The following information is provided for the I. R. Administrative Manual exclusively, as additional guidance for implementing this policy.

4. SUPPLEMENTAL ADMINISTRATIVE INSTRUCTION

None

5. ADMINISTRATIVE RESPONSIBILITIES

5.1 Local Industrial Relations Manager

5.1.1 Insure that Supervisors are informed of their responsibilities under this policy, and are provided such information and assistance as is available to assist them in detecting the problem drinker.

5.1.2 When notified of a suspected problem drinker, arrange for medical consultation and examination.

5.1.3 Provide guidance and assistance to the Supervisor in determining the appropriate initial course of action.

5.1.4 Periodically follow up on each case to determine the need for further remedial action.

5.2 Local Plant Doctor

5.2.1 Determine whether the employee has a drinking problem or other illness which is effecting his job performance.

5.2.2 Inform the employee of, and refer him to, an approved professional source of assistance.

5.2.3 Inform the Supervisor and the local Industrial Relations Manager of the medical aspects of the situation, including:

a. The diagnosis of the problem.

b. The likelihood that the employee will respond to treatment.

5.2.4 Maintain sufficient contact with the employee to determine whether he is undertaking and responding to treatment as anticipated.

5.2.5 Keep the Supervisor and the local Industrial Relations Manager informed as to progress being made in controlling the illness, and recommendations.

5.3 Corporate Medical Director

5.3.1 Evaluate available sources of professional assistance and inform the local Plant Doctors and/or Industrial Relations Managers of those that are approved for local use.

5.3.2 Provide technical assistance to the local Plant Doctors and Industrial Relations Manager on request.

5.3.3 When notified of a suspected problem drinker in a plant location in which a Plant Doctor is not available, locate and arrange for medical consultation and examination.

5.3.4 Insure uniform application of this policy throughout the Company.

STORAGE TECHNOLOGY CORPORATION (STC)

BACKGROUND

Storage Technology Corporation (STC) is a major supplier of data storage subsystems for computers. The company was founded August 1, 1969, and has grown rapidly to become a "Fortune 500" company employing about 16,000 people.

STC has a Human Resources division headed by a Vice President for Human Resources. This division includes: Employment; Equal Employment Opportunity and Affirmative Action (EEO/AA); Corporate Training and Development; Benefits; Compensation; Services (e.g., food); Administrative Services; Medicine; and Human Resources (these are human resource generalists who work throughout the various businesses in the company).

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

The specialist who arranged the site visit is the manager of the EEO/AA office. The office has formally defined its mission as follows:

> Affirmative Action can be described as systematic, comprehensive, and reviewable efforts to dismantle discretionary processes. These efforts help to break down the structural, organizational, and personal barriers which perpetuate injustice. In industry these barriers and injustices decrease productivity, limit managerial effectiveness, and inhibit personal and professional growth. In short, Equal Employment Opportunity and Affirmative Action are sound management practices, enabling fair and equitable treatment for all employees, while maximizing corporate effectiveness.

The departmental mission translates to reality by way of five major areas of emphasis:

- Training and Development - policies, practices and philosophies of EEO/AA for STC management;
- Statistical Reporting - Goal Setting - Demographics;
- Counseling - for HR, Management, and any group or individual employee;
- Policy Monitoring - Charge Investigation;

- Recruitment - of female, minority, handicapped and veteran applicants.

In the last year, STC has initiated a special emphasis on the hiring and accommodation of handicapped workers. An important catalyst in this emphasis was a conference held in Colorado in 1981 by the Colorado Coalition for Persons with Disabilities, held in conjunction with the International Year of Disabled Persons. Because of the volume of interest shown, the conference is continuing on an annual basis. There will be a Job-Seeking Skills Conference in August of 1982, and a Job Fair in October 1982. Last year's conference was attended by STC's EEO/AA manager. (A copy of the conference information sheet is attached. This sheet lists the 21 Colorado Companies attending the conference.)

The conference not only provided information to companies on how to interview, hire, and accommodate people with disabilities; it also provided a stimulus for job application. As a result, Colorado companies have received more applications from handicapped workers. STC hired 84 handicapped people last year, including individuals with severe handicaps.

INDIVIDUAL CASES OF ACCOMMODATION[1]

The site visit included detailed information on two handicapped employees for whom accommodations have been arranged.

Joe is a quality inspector in a unit responsible for the checking of materials produced by another unit. He has limited mobility in his right arm and right leg due to shortened tendons. His manager has been in charge of the unit for the past two years. Joe was referred to the manager by the recruiting office as a handicapped individual with past inspection experience who was seeking the position to advance his career. The recruiting office encouraged the manager to consider hiring Joe. The manager tested him with the equipment he was to use, and hired him. The only accommodation which was required was a special stand for the microscope used in the job. Usually the scope is worked with two hands; the stand allows Joe to use the scope with one hand. The accommodation was planned and

[1]The names used in these cases are fictitious.

accomplished during job training; the training department had the stand, and made it available for Joe's use.

After Joe was hired, someone in another unit raised a question as to his ability to perform his job. His manager assigned an engineer to inspect Joe's work, and found no problem with his ability to carry out his assigned tasks. He remained on the line.

The manager did attempt to make accommodation for Joe to allow him to work in the "Clean Room," a special environment which has stringent cleanliness and set procedures. Work in this "Clean Room" is rewarded with extra incentives, and as it was part of the operation in his unit, Joe was interested in working there. A special uniform was made for him, as the existing uniforms were too small. However, after a trial period, both Joe and the manager agreed that he was unable to get into the uniform and into the Clean Room with the other employees without causing problems in the tight schedule. So he has remained in the inspection job for which he was hired.

Frank works as a programmer in the Management Division. He is handicapped, and uses a wheelchair. He is not actually an STC employee, but an employee of an organization called Lift, Incorporated of Northbrook, Illinois. Lift trains physically disabled individuals and places them in work situations with cooperating companies. Lift has representatives in Chicago, Denver, and New York. Frank's Lift training has been in computer programming. For six months he had a terminal, video recorder, and TV at home, and went in to STC once a week to meet with an analyst assigned by STC to be responsible for reviewing his work and answering questions. During this six-month period, Frank was at STC for three to six hours a week. Subsequently, STC hired him on contract for one year. STC pays Lift. Lift pays Frank, and in addition provides health and life insurance.

The only physical accommodation required for his programming job is a raised desk; his analyst helped design and arrange the accommodation. The keyboard he uses at the terminals can be used at his lap, so that all the table heights for the terminals did not have to be altered. Most of the buildings are physically accessible, although some elevators and bathroom arrangements could be improved in terms of safety or convenience. None of these present barriers to job performance, however.

A number of other small physical accommodations were noted during the site visit. In most instances, these accommodations are low-cost, and are achieved within the operating unit by the worker and his or her manager. In one case, blind workers on an electronics assembly line were provided with double-taped markers along the pathways through the plant, to assist in mobility. The tape is double to facilitate detection with a cane. A midget in the same unit was provided with a higher stool, and is assisted by someone else in reaching food in the cafeteria. Many of STC's accommodation practices are not physical modifications, however, but special practices for hiring and working with individuals with disability.

PRACTICES

Recruiting and Interviewing

The manager of corporate employment oversees a department with recruiters for exempt (professional) and nonexempt staff. The company receives hundreds of applications monthly, and has installed an automated application tracking system to assist in the processing of applications. In this process, there is special handling of EEO/AA agency referrals. EEO/AA has a list of agencies for affirmative action referrals; this list includes agencies for minorities and women, Vietnam veterans, and the handicapped. Each STC recruiter is assigned some of these agencies, and individual recruiters are designated as a liaison to particular agencies.

STC is actively involved with special agencies for the handicapped such as local rehabilitation agencies and facilities. Recruiters are in touch with the local Vocational Rehabilitation (VR) offices, and with a local vocational technical school which trains physically and mentally handicapped workers in production skills in a machine shop. In addition, they are in touch with private rehabilitation organizations.

STC currently has several hundred referrals from agencies. The EEO/AA office facilitates such applications, and effectively ensures that affirmative action referrals are granted an interview rather than being filed. This policy applies to women, minorities, Vietnam veterans, and the handicapped, and creates a special avenue to entrance into the recruiting process. The tie to recruiting is especially strong, since the EEO/AA manager was previously an STC recruiter and knows the recruiting system well.

Job Searches

The STC recruiters have made special efforts to find jobs for handicapped applicants. For instance, to find a summer job for a severely disabled high school student, one recruiter hunted in various divisions until locating a job which could be modified to be performed by someone with very limited mobility. Another student, using crutches, was easier to place.

The recruiters see part of the job as "educating the managers" in affirmative action hiring. Some managers are more willing to hire affirmatively than others. The recruiting office works closely with the EEO office, which puts out the hiring and working statistics. The recruiters interviewed felt that in STC there is a more heightened awareness than in other companies in hiring the handicapped. There is an emphasis on hiring the handicapped, and the EEO/AA office keeps people aware of the goals. Still, the recruiters find that some areas of the company do more than others in interviewing and hiring the handicapped.

Reporting

Like other employers, the company does not have formal records on all the handicapped individuals working there. In fact, identification or visible handicap accounts for only a small percentage of the disabilities that would be predicted using national prevalence statistics. The EEO/AA office thus is only able to report some percentage of the actual statistics on employment of the handicapped. Accommodations are rarely recorded formally although the office is sure that hundreds of accommodations have been made.

MBO Goals

Affirmative action goals are included in the Management by Objective (MBO) targets of individual recruiters. An example in one recruiter's current targets is to "increase handicapped hires by 8%." Of course, it is difficult to measure such an increase because the definition is limited to those who self-identify and/or those with visible handicaps. But even if there is a measurement problem, the goal is explicit in individual work plans.

Training

As part of the training program of managers, the company includes information on how to interview and hire handicapped people, and how to make special accommodations on the job. In the case of interviewing, people are taught that a successful interview should include a discussion of the handicapped and accommodation needs; this practice was recommended by the consumer conference attended by STC. In the case of accommodation on the job, managers are taught how to consider the special issues that might arise in the case of handicapped employees. For instance, the policies of the company state that any employee absent for three days without reporting is automatically terminated. In the case of a deaf person who is home ill and cannot "call in," the manager confronts two issues: first, how to deal with this particular circumstance in terms of making exceptions to policies, and second, when an exception is made, how to rationalize inconsistency in policy so that other workers do not perceive inequities. Flexibility in dealing with situations is stressed as crucial in this type of accommodation.

DECISION FACTORS

Cost

In general, STC has found that accommodation of the handicapped is not costly. The EEO/AA office points out that much of accommodation is psychological, not physical, and has to do with educating managers and other workers. Where the needs include physical modifications as well, what has been involved has usually been minor physical changes (tape on the floor, raising desks) rather than purchase of expensive special equipment.

It is hard for STC to quantify the costs and payoffs of accommodation. If an accommodation is required which will require some expenditure, funds will be found in the budgets of individual managers. In most cases, the managers pick up all such costs, and the "accommodation" will not be treated as a separate expense. In some cases, the EEO budget will be used in combination with the manager's budget.

Flexibility

Flexibility in interpreting job requirements and in working with different types of people is a key factor in STC's success in hiring the handicapped. This flexibility is important at all levels: the individual workers, the managers, and the overall company administrative structure. For instance, the recruiters indicated that placement is influenced by the flexibility of individual managers, and their willingness to hire handicapped individuals Good communications skills on the part of the manager and the new employee are essential for successful placement.

Transportation

There is no public transportation to the STC plant, and the lack of transportation is listed as a problem in hiring the handicapped. The only easy way to get to the buildings is by private car or company sponsored vanpool service. The company does maintain a car pool service, but if individuals have special transportation needs, access to the site is difficult.

CONCLUSIONS

STC is a young company which has experienced very rapid growth. As a company, STC has grown during a period of heightened awareness about the rights and abilities of handicapped people, and its physical plant has been constructed for the most part after existing architectural regulations were in place. The employees are young (average age is 33) and thus many of the physical barriers existing in older, more conservative companies are absent here. This is not to imply that the job of affirmative action for the handicapped is easy. Accommodation involves the training and encouraging of individual managers, and special interview procedures to ensure that handicapped applicants receive job opportunities. Most of the accommodation problems seem to be psychological, rather than physical, in nature. There are issues of attitude, work expectations, and experience that must be overcome through training and through the raising of consciousness. The EEO/AA office has been quite active in such training, and in training handicapped applicants in the system.

Outside organizations provide referrals, but since the various agency referral systems are unorganized, the company finds them less helfpul than might be hoped. More systematic and relevant referrals would assist the company and the client-applicants, in STC's view.

The affirmative action for the handicapped has been strengthened through the company's participation in job conferences sponsored by the handicapped. Such conferences appear to be very useful in providing both awareness and suggested practices.

STC's affirmative action policies are evidenced in 84 new (self-identified or visible) handicapped employees in the past year. The EEO/AA manager would like to see increased emphasis on (and resources allocated to) voluntary affirmative action efforts, both within STC and nationwide. He feels that much of the time currently devoted by EEO/AA officials to statistics and reporting might be better used to find and recruit qualified handicapped applicants.

Handicap Conference

Fall 1981

James Gumpert Mountain Bell
978-8186

Set up conference last year, currently Mt. Bell Affirmative Action, specializing in the placement of handicapped individuals and veterans.

The conference held last year at the Holiday Inn at 120th and the Valley Hiway was a combination of Workshops and Job Fair, with 3 hours alloted for the Job Fair. 21 companies participated in the job fair they are as follows:

Coors
Mountain Bell
Amoco
Pepsi
Dept. of Health and Human Services - Federal
Office of Personnel Management
Computer Sharing Services
Western Electric
Mobile Oil
Amerinan National Bank
Allstate Insurance
Ball Aerospace
STC
Chevron
McDonalds
TOPS Temporary
Lawry AFB
Digital Corp.
Hewlette-Packard
First National BAnk of Denver

The whole thning was "put on" by the Colorado Coalition for persons with disabilities. Originally it was in conjunction with the International Year of the Handicapped.. however, it (the coalition) is still in existence because of the volume of interest shown.

HANDICAP CONFERENCE
FALL 1981
PAGE 2

POSSIBLE CONTACTS IN THE DENVER AREA:

KAREN YAUK	LAWRY AFB
CHEVRON	PATSY LOVE
MT. BELL	CAROL WILLIAMS
COORS	GERI MICHEALS
AMOCO	MARSHA WILLIAMS
PEPSI	JIM PICHARDSON
BALL AEROSPACE	WILMA BELLAMY

THIS YEARS CONFERENCE;

PRE-CONFERENCE KICK-OFF: BREAKFAST OF CHAMPIONS

WRITERS MANOR- DENVER
MAY 27, 1982
7:30 A.M.

THIS FUNCTION IS FOR AA/EEO OFFIERS AND CHIEF EXECUTIVES (UPPER MGMT.) AT THIS MEETING YOU WILL BE INFORMED ABOUT THE UP COMMING CONFERENCES IN AUG. '82 AND OCT. '82.

AUG. '82 JOB SEEKING SKILLS CONFERENCE
OCT. '82 JOB FAIR

THIS YEARS JOB FAIR WILL PROBABLY BE HELD AT THE HOLIDAY INN - 120TH AGAIN.

TEKTRONIX, INC.

BACKGROUND

WHAT MATTERS? ABILITY NOT DISABILITY

When it hires, Tektronix seeks not to discriminate either against any person or for any person. The important thing is that person's ability -- not his disability.

We will make one concession: We will take the necessary extra effort to make sure he has a fair chance at the start. So it is that we invest more in his placement than that of the average job candidate.

There are two good reasons why -- good reasons for Tektronix:

First, we are tapping a reservoir of dedicated, capable employees -- a reservoir it would be poor business to overlook.

Second, a positive outlook toward hiring disabled persons is healthy for employee morale.

- Tek Talk
Employees Publication of Tektronix, Inc.
July, 1962

As evidence by the above, hiring and accommodating disabled employees is not a recent phenomenon at Tektronix. For over 20 years, Tektronix has made concerted efforts towards integrating disabled individials into their work force. That Tektronix has been so successful in accommodating disabled employees is in part due to their long history

of efforts in this area. Over the years Tektronix has learned and developed effective methods of making job modifications. They have also maintained a commitment to accommodating employees. This commitment is pervasive and is the key to their success.

Tektronix is a Fortune 500 Company of approximately 24,000 employees with $1 billion in sales. It designs, manufactures and sells computing systems, microcomputer development systems, test and measurement instrumentation and other highly specialized electronics products to more than 50,000 customers worldwide. Tektronix is the world's largest manufacturer of oscilloscopes and is the technological leader in low cost computer graphics. Tektronix was established in 1946 in Beaverton, Oregon where 17,000 of its employees are currently located.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

The first staff position for overseeing the hiring and accommodating of handicapped workers was developed in the early 1960s. At that time a disabled employee in the Personnel Office was asked to take this on as a special project. Tektronix saw disabled individuals as a potential supply of valuable employees and wanted to encourage them to apply and to accommodate them after hiring. The person who took on this project pursued it vigorously and was very successful. Since that time Tektronix has actively pursued the hiring and accommodating of disabled workers.

The current specialist differs from that first specialist in that he is located within the Corporate EEO Department rather than personnel. His title is "Specialized Resource Coordinator". Unlike the first specialist, he is not involved directly in the interviewing or hiring of disabled workers; rather, he focuses on accommodations.

Although Tektronix does have a specialist in this area, their approach towards accommodations is very decentralized. The specialist is responsible for overseeing accommodations, however he is by no means involved, nor even aware of, every accommodation.

Most accommodations at Tektronix are made by individual managers. Many accommodations are very simple and virtually cost-free (e.g., the raising of a desk). In these instances the accommodation is made by the manager in conjunction with the disabled employee. For these types of accommodations, which are quite common, it is not necessary for the EEO specialist to be involved.

The EEO Specialist at Tektronix basically serves as an in-house consultant to managers and disabled employees. The specialist is involved in a wide range of accommodation issues, including the following:

- if an employee or manager needs assistance in determining what type of accommodation is appropriate;
- if an employee or manager needs assistance in developing an idea for an accommodation;
- if an employee feels he/she needs an accommodation and hasn't yet received one;
- if an accommodation is not successful;
- if an employee needs to have their job restructured or needs to move to a different job.

A great deal of what the specialist does is creative problem solving. If a manager and disabled employee are at a loss as to how the employee can be accommodated, the specialist is called in for ideas and advice. The following case is a good example of the specialist's creative approach:

> David[1] works as a machine operator. He is dyslexic and cannot read or write. His supervisor was very disturbed by this and felt that because of this limitation, he could not function effectively on the job. The EEO specialist was called in to see if an accommodation could be made. He found the following two job related problems associated with David's disability: 1) because David cannot write he could not record reasons for machine failure on the reporting form; and 2) because David cannot read he can't tell time to figure out how long he spends on each job.

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[1]David is a fictitious name. All names in this report are fictitious in order to protect the confidentiality of the individuals.

> For the first issue, the specialist reviewed the past machine failure reports and discovered that there are fewer than 10 different reasons for machine failure so the reasons were listed and numbers were assigned to them. Once this was explained, David could record the number of the reason for a machine failure. With the second issue, the accommodating device was a pocket calculator with a built-in digital clock and stop watch. Now when David starts a job he can copy the time and start the stop watch. When he finishes the job he can copy the time and elapsed time, thus properly completing the time reporting form.

The use of two simple accommodating devices, a list and a digital clock, enabled David to become fully productive on his job. David's limitations which appeared severe to his supervisor, were easily accommodated by some creative thinking on the part of the specialist.

In many ways, Tektronix would prefer not to have a specialist for accommodations. Ideally, accommodations would be totally integrated into the company's operating procedures. Although this has happened to a great extent, Tektronix has found that a specialist is extremely valuable in ensuring that all possible types of accommodations are considered and that nothing is overlooked.

INDIVIDUAL CASES OF ACCOMMODATION

During the site visit to Tektronix, three specific cases of accommodations were examined in detail. These three cases are presented below. Although they illustrate three different types of accommodation, they are not representative of the entire range of accommodations found at Tektronix. Far more than three examples would be necessary to accomplish that.

Gary, who is deaf, began working at Tektronix 14½ years ago. Although initially hired as an assembler, he now does mechanical drafting in the T.V. product division. After Gary began working in the T.V. products division, his immediate supervisor, Jim, discovered there was a problem locating Gary if he was away from his drafting table. If Gary was needed for an unscheduled meeting or if he received important phone

calls from home, Jim had no way of locating him if he was away from his work station. Jim found this problem to be most annoying. He decided that what Gary needed was some type of paging device, which instead of "beeping", did something for the hearing impaired. Jim contacted the purchasing department and asked them to look into this matter. They, in turn, contacted their supplier of conventional paging devices. They discovered that a new paging device had recently been developed which vibrates instead of beeping. It was purchased for Gary, and Jim no longer has a problem locating him. After Gary is contacted, he will phone Jim on a portable TTD to find out why he is needed.

The vibrating pager has been most useful for both Gary and Jim. It has saved temendous amounts of time which otherwise would have been spent trying to locate Gary. The cost of the vibrating pager was slightly more than a conventional pager and has proved to be cost effective. Based on its success with Gary, Tektronix has purchased six additional vibrating pagers for other deaf employees.

Additional accommodations which have been provided to Gary are:

- A Light Above Phone: A light has recently been installed over Gary's phone. When the phone rings, the light turns on. Previously, it was very difficult for employers who work near Gary to tell when his phone rang. Although they could hear it, it was almost impossible to distinguish Gary's phone from his co-workers phones. The presence of the light makes it very easy for Gary, as well as his co-workers to know when his phone is ringing.
- Interpreters and Note Takers: Although Gary can lip read quite well, he had difficulty understanding speakers at meetings and in classes. (This is not a problem with Gary's co-workers, as they have learned to speak slowly with him, and to repeat themselves as necessary.) About ten years ago, Tektronix began providing interpreters and note takers for Gary and other deaf employees at meetings and classes. Since Tektronix has many hearing-impaired employees, the cost of this service is not considered major.

- TTD: Gary has regular access to a portable TTD. Tektronix currently maintains 27 portable TTDs for its hearing impaired employees. At least one TTD is located in each building where a deaf employee works.

Norm has been employed by Tektronix since 1976. He is a computer programmer and is blind. When Norm was hired, immediately after completion of his undergraduate studies, it was clear that some type of accommodation would be necessary. With the assistance of the Oregon Commission for the Blind, a braille terminal was purchased for Norm. This terminal produces hardcopy braille output, rather than a visual display of output. With this terminal Norm is able to efficiently perform his programming tasks.

The braille terminal cost approximately $12,000. The Oregon Commission of the Blind, who assisted Norm in his undergraduate studies, paid approximately half of this cost. Tektronix did not view this cost as excessive. All programmers are provided with terminals, hence the cost of the accommodation was really just the difference between the price of the braille terminal and that of a conventional terminal. This marginal cost was deemed most cost effective given that it resulted in a productive employee.

Fortunately for Norm, all of the employees in the computer center use electronic mail extensively. Hence, he has no problem reading inter-office memos and messages. Norm does currently have a problem gaining access to computer manuals and documentation. Various manuals have been put on tape for Norm and this has somewhat eased the problem. The manuals which are on tape, however, become outdated very quickly, and this has been problematic. Tektronix will soon be implementing a new operating system, which has very good on-line documentation that is updated regularly, hence this problem should be greatly alleviated.

Although Norm has been very happy with his braille terminal, he has identified ways in which it could be improved. He has maintained contact with the manufacturer and has given them many suggestions. Norm is also very active in an organization of blind computer programmers. He has given advice to visually impaired programmers and other corporations on the types of accommodations that are needed and how they can best be implemented. Although this activity is not within his "job description," Tektronix both encourages and supports Norm in these efforts.

Richard lost part of one leg and is in a wheelchair as a result of an automobile accident. He started working for Tektronix in 1977 as a computer programmer trainee. Since working at Tektronix, Richard has received several promotions and is now the Payroll Manager. He is responsible for overseeing the bi-weekly payroll for 24,000 employees.

Since most of Tektronix' facilities were already wheelchair accessible, he needed very few accommodations. Initially his desk was raised and some of his co-workers desks had to be moved slightly to widen the passageways. He also has a reserved parking space. Although these accommodations are quite minor, they were absolutely necessary for him to perform his job.

After working at Tektronix for a few years, Richard developed a problem with body sores. He had to be hospitalized for six months. During this time his job was preserved and he was supported by Tektronix' short term disability policy. Upon returning to work he needed to lie down for an hour in the middle of each day. Tektronix provided him with a cot and since they are on flex-time, scheduling wasn't a problem.

Richard has been active in many community organizations regarding the disabled (e.g., The Oregon Architectural Barriers Council, The Paralyzed Veterans, The Spinal Chord Injury Foundation). Tektronix has supported and encouraged this community involvement. Their support is evidenced by such things as allowing Richard to maintain organization mailing lists on the company's computer.

The accommodations made for Richard are typical of many of the accommodations made by Tektronix. The accommodations themselves are very minor and are virtually cost-free. Yet it is these small modifications which allow Tektronix to employ valuable and productive individuals such as Richard.

PRACTICES

Recruiting and Hiring of Disabled Employees

Recruiting of disabled employees is basically the same as with other employees. All of the recruiters and personnel staff have been trained to recruit the most qualified applicants regardless of any handicapping conditions. Tektronix has a reputation for hiring disabled employees, hence they have many disabled applicants.

Disabled applicants are interviewed and treated in the same manner as all other applicants. Although the EEO specialist is always available as a consultant, there are no personnel employees who work specifically with the disabled. On the application form, all prospective employees are asked if they have a handicapping condition that requires some type of accommodation. If an accommodation is needed, it is discussed with the applicant.

All hiring decisions are made by specific managers. When personnel refers qualified applicants to managers, they will discuss any needed accommodations. If necessary, they will ensure that the manager is aware of Tektronix policy of making accommodations.

Although Tektronix works with several referral agencies, they have developed an especially close relationship with the Oregon Vocational Rehabilitation Division. Since Tektronix is known for hiring disabled workers and since it is the largest employer in the state, VR refers many clients to them. In the past, the job placement specialists within VR were not familiar with the specific positions available at Tektronix, and hence were referring clients inappropriately. To combat this problem, Tektronix arranged for one VR staff member to spend a few months at their facilities. During this time that individual became very familiar with all of the types of jobs available at Tektronix and the specific training needed for each of the job categories. Now all VR referrals are funnelled through this individual. He ensures that VR clients are applying for jobs for which they have the necessary skills. This arrangement with VR has drastically reduced the number of inappropriate referrals. It has also assisted VR in developing better training programs for its clients.

Review of Disabled Employees

Disabled employees are expected to perform at the same level as their co-workers. Tektronix applies the same production standards to all employees. Great efforts are made to accommodate workers, however, after accommodations are made, the employee is treated no differently. In the event that a disabled employee is performing poorly and his/her manager feels that termination is necessary, the EEO specialist may be asked to review the case. He ensures that the reason for poor performance is not due to the accommodation. If he discovers that additional or different accommodations may prove successful, they are tried prior to termination. If it is determined that a particular employee cannot perform a particular job due to his/her limitations, the EEO specialist will determine if the employee could perform in a different job within Tektronix and, if appropriate, will arrange for a reasonable accommodation.

Accommodation Procedures

The decision to make an accommodation is done at the time the need is identified. This may be at the time of hire or after an employee has worked at Tektronix for several years. There are no written guidelines or procedures for determining when an accommodation is appropriate. The basic decision-rule is to first make all accommodations necessary to enable an individual to perform in his or her job, and second to make accommodations that will increase an individual's performance. The seniority and skill level of a particular employee does not effect whether or not an accommodation will be made. Accommodations are made for new entry level employees as well as the most senior technical staff and managers.

Virtually all accommodation decisions are made on an individual basis, the exception being accommodations which apply to many employees. Examples of such accommodations made by Tektronix include:

- removal of architectural barriers;
- interpreters and TTDs for the hearing impaired;
- vans with lifts to transport individuals in wheelchairs between buildings;

- braille and raised markings; and
- special parking for the disabled.

Accommodations for specific individuals are always decided on an individual basis and usually by the disabled employee's manager. The manager will implement and evaluate the effectiveness of accommodation. The EEO specialist usually becomes involved when a manager is having difficulty. This basic procedure is simple and non-bureaucratic. It is also effective. It works because managers know of Tektronix's commitment to making accommodations and of the company's expectation that they will strive to be successful.

Training of Managers

There are two central forums where Tektronix' philosophy is articulated to managers. These are: 1) Selecting for Excellence, a seminar on interviewing and hiring prospective employees; and 2) EEO in Action, a seminar on the corporate EEO program. These seminars are attended by all new managers. They first cover the federal and state regulations and legal aspects of hiring and accommodating disabled employees, as well as other aspects of EEO and Affirmative Action at Tektronix. They also emphasize that Tektronix is committed not only to the letter of the law but also the spirit of the law, and that Tektronix has been operating in accordance with the principles of the laws much longer than the laws have existed. All types of accommodations are discussed in these seminars and it is emphasized that accommodations are usually easily developed, easily implemented, and not very costly. Finally, all new managers are encouraged to contact the EEO specialist about any accommodations issues they might face.

In addition, the EEO specialist meets with individual managers and staff on an as-needed basis. This may be formal or informal. He has several audio-visual presentations that he uses to address certain issues. For example, a manager may be concerned about the safety of an employee who has epilepsy. Usually the managers fears are due to a lack of knowledge about epilepsy and a reluctance to discuss it with the individual. In this situation, the EEO specialist will show a film about epilepsy to the

manager and to the employee's co-workers. Afterwards he will initiate and moderate a discussion on epilepsy in general and on this specific employee's condition. This usually alleviates the fears and safety concerns of the group.

DECISION FACTORS

The Importance of Costs

In general, cost is not a major factor in making accommodations at Tektronix. They feel that most accommodations require more creative problem solving than money. By taking a "creative problem solving" approach towards accommodations, high costs are often avoided. Whenever possible they will try to find alternatives to expensive capital investments; or, as is illustrated in the following example, they will make a dual purpose expenditure.

> Betty is a blind employee and works in parts manufacturing. For quite a while she operated a particular machine and was a top producer. Then, the machine she operated became automated and an operator was no longer needed. Her manager, Ken, did not want to lose her, but there was no other equipment in his department which could be operated by a blind person. Modifying any of the equipment just for Betty would be very expensive and Ken did not think he could justify it for a single employee. He asked the EEO specialist for advice. The specialist asked Ken if there were any parts that were being manufactured that had a high reject rate. It turned out that a particular type of knob they made had an exceptionally high reject rate. Recently, over half of the knobs had been defective. It was agreed that the machine that made the knob could be redesigned to reduce the number of defective knobs. Since the machine was going to be redesigned to increase its productivity, it was virtually costless to modify it so that it could be operated by a blind person. Betty now operates this machine. Ken is very pleased that Betty still works with him and that his problem with defective knobs is eliminated.

In this example, the need for an accommodation triggered the redesign of a machine. The redesign of the machine saved tremendous amounts of money by reducing defective parts. Hence, an accommodation

which at first appeared to be unreasonably costly, turned out to result in a cost savings.

There are, of course, certain accommodations which are costly. In deciding whether or not the cost is reasonable, Tektronix examines very carefully what the potential pay-off will be. Although a strict cost-benefit analysis is rarely possible, they attempt to weigh the costs against the potential benefits. Since the company has had good experiences with accommodations, they are likely to make the financial expenditure in those cases where the pay-off seems possible but not necessarily certain.

General Employment Policies

Tektronix' general employment policies serve to encourage the accommodation of disabled employees. Tektronix makes a concerted effort to retain employees. Since they are committed to trying to keep employees, they are very willing to make accommodations. For example, they recently had to reduce their work force in several areas. While 200 people were laid off, 1,200 were reassigned and retrained for other positions. Tektronix always attempts to reassign an employee rather than lay him or her off.

CONCLUSIONS

Job accommodations happen regularly at Tektronix. They are rarely problematic or difficult, but are an integral part of company management. Tektronix' history has contributed greatly to their success in this area. By having actively been committed to hiring and accommodating disabled workers for so long, it is now part of their "system". They know how to do it. Their success, however, cannot be attributed solely to their vast experience. The various staff interviewed agreed that following were critical to their success:

- the general "people" or "employee" orientation of the company;
- the commitment on the part of top management;
- the creative problem-solving approach (and having an individual who specializes in this); and
- the willingness to take a risk and make it work.

This last factor was viewed as the most critical. The Tektronix staff felt that if accommodations are considered difficult and problematic, they would almost certainly fail, but by having a positive attitude, it is easy to succeed.

UNION CARBIDE CORPORATION

BACKGROUND

Union Carbide Corporation, Nuclear Division (UCC-ND) operates four major energy-related production and research facilities for the Department of Energy (DOE). These include:

- gaseous diffusion plants in Oak Ridge, Tennessee and Paducah, Kentucky, which produce enriched uranium fuel for nuclear power plants;
- the Oak Ridge Y-12 Plant, a sophisticated manufacturing and engineering organization engaged primarily in national defense programs but also in nuclear and other energy programs and in the national space effort;
- the Oak Ridge National Laboratory, one of the world's largest and most diverse research and demonstration centers with programs in a variety of scientific fields and a central mission of attaining abundant, economic and environmentally acceptable sources of energy.

This case study will explore the policies and experiences of UCC-ND in general and the Oak Ridge National Lab (ORNL) in particular. ORNL was selected out of the four facilities because security regulations limit visitation at the other three sites.

UCC-ND employs approximately 18,500 employees, about 17,000 in the three Oak Ridge facilities, with about 5,000 at ORNL. The Nuclear Division is by far the largest Division of Union Carbide. The Division is owned by DOE and operated by Union Carbide (GOCO-government owned, contractor operated). This means that 100% of the Division's work is through government contract, but the personnel are employees of Union Carbide. They receive corporate salaries and fringe benefits and operate under corporate policies and directives.

AFFIRMATIVE ACTION FOR HANDICAPPED PERSONS

Union Carbide has been active in affirmative action for minorities and women for many years. The Nuclear Division's formal Affirmative Action Program dates back to 1968 with the appointment of the first Equal Opportunity Coordinator to assist top management in implementing its commitment to affirmative action for minorities. The program was expanded to include women in 1972. The Nuclear Division Equal Opportunity Coordinator is responsible for the design and implementation of UCC-ND's AA Program. She maintains close ties with the Nuclear Division's officers and others at top management levels in the Division and in its installations to ensure that the direction and progress of the AA Program are consistent with UCC-ND's commitment to equal opportunity and with corporate and governmental regulations. She works closely with the AA Coordinators at the four installations and meets with them collectively at least once each quarter. The AA Coordinators in turn work closely with the installation heads and division heads to assist them in achieving their affirmative action goals.

Ten years ago, these efforts were further strengthened by the formation of an Affirmative Action Organization (or committee) at each installation consisting of AA representatives appointed by each division manager. At ORNL, for example, the 27 divisions have a total of 40 AA representatives. Each of these AA reps holds a regular position within the division and takes on as part of his/her job responsibilities AA duties that include:

- becoming knowledgeable about relevant laws and regulations and familiar with the AA Plan;
- preparing quarterly reports on hiring, promotion, termination, and transfer activities, including minorities, women, handicapped employees and covered veterans; and
- handling complaints of discrimination from division employees.

In 1978, the impetus to increase handicapped hires was provided through an Action Plan for the Handicapped. Prior to that time, there were no specially targeted recruitment activities, no physical modifications to old buildings, and medical and safety directors were reluctant to recommend handicapped applicants to be hired. Affirmative Action Coordinators were "trying to get people to do things they hadn't been told to do." The 1978 Action Plan embraced three areas:

- strengthening the commitment of management to increase the number of handicapped hires;
- modifying selected facilities to accommodate handicapped employees and applicants; and
- actively recruiting at authorized agencies for training and placing the handicapped.

The Action Plan with its strengthened management commitment marked a turning point in the AA program for the handicapped. The key to its success was in having those responsible for its implementation take "ownership" of the problem. This began with the plan itself, which was sent by the Nuclear Division's president to top managers for their review. Thus, it became "their plan, not EEO's." The role of medical directors was limited to identifying work restrictions and limitations rather than recommending whether or not an individual should be hired. At the Oak Ridge Gaseous Diffusion Plant they were given ownership of the plan by being asked to present to a managers' meeting a discussion of not only the problems they had identified in hiring the handicapped, but also recommended solutions.

During 1981, UCC-NL's commitment to affirmative action for the handicapped was even further strengthened by the appointment of a Coordinator for Employment of the Handicapped. This one-year position was responsible for developing and implementing various procedures and programs that would later become absorbed into regular employment functions. The major activities of the Coordinator included:

- establishing a uniform recordkeeping system across all four installations and the Central Employment Office;
- developing a system for special handling and tracking of handicapped applicants through the application process;
- providing training to Employment Department staff members and AA Representatives about the regulations and handling of complaints;
- developing a Summer Program for hiring handicapped applicants; and

- increasing disability awareness through participation in National Handicapped Awareness Week and Deaf Awareness Week, co-producing a film about myths, likes, needs, etc. of handicapped person.

Perhaps the strongest evidence of UCC-ND's commitment to affirmative action for the handicapped is that since 1979 the Division has spent over $400,000 on physical accommodations to their facilities. These have included removing barriers to employment offices, the cafeteria, and buildings where wheelchair-users work, as well as remodeling bathrooms and providing special parking. UCC-ND currently employs 15 totally deaf, about eight wheelchair-users, a few legally blind, and several learning disabled. Including those with medical restrictions and less severe disabilities, UCC-ND currently employs 750 individuals with handicaps or physical limitations.

In the next section, three handicapped employees and their employment experiences will be described. The later sections will discuss UCC-ND's AA practices in more detail.

INDIVIDUAL CASES OF ACCOMMODATION[1]

Joe has been a laborer in the Plant and Equipment division (P & E) ORNL for almost four years. This division is responsible for all maintenance of the buildings, grounds, roads, electrical systems and so on, and also provides craft and technical support for the research conducted in the lab.

Joe first came to UCC through the Youth Opportunity summer employment program where he worked in grounds maintenance at UCC's recreational park. Joe has a learning disability and was referred to UCC for the summer program by a counselor at his high school who was aware that he would need careful supervision. His experience in the summer program was so successful that he was hired by a manager in P & E for a permanent position.

The accommodations Joe needed were minor. Supervisors were told about his learning disability and to instruct him very carefully, watch him closely and keep his disability in mind when assigning him tasks.

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[1]The names used in these cases are fictitious.

Though he started out as a "floater" available for whatever jobs were required, as would any other general laborer, it was recognized that he might do better if given a regular assignment for most of his workday. Joe is now responsible for cleaning certain labs on a regular basis and for a regular package delivery route. While he is occasionally called in for other jobs as needed, P & E staff are careful not to assign him to equipment or tasks that might involve a safety hazard to him or his co-workers (e.g., using a chain saw). Whenever he is given a new task, his supervisor is careful to give him detailed instructions and additional supervision as needed.

Joe has proven to be a good worker and an asset to his division. Once he has learned a task he does it well and takes responsibility for seeing that his routine work is done. He receives union wages, for which he works as hard as, and perhaps more consistently than, other workers. UCC-ND incurred no direct costs in accommodating him and the additional supervisory time required is not substantial. Joe likes his job and feels good about working for ORNL. But more importantly, he appreciates the opportunity to be self-supporting. Six months ago he moved out of his parents' home and into his own apartment. He is proud of his independence.

For the last five or six months, Cathy has been working as a typist in the Employment Department of the Employee Relations Division at ORNL. Cathy's application was initially brought to the supervisor's attention by the Coordinator for Employment of the Handicapped. She passed the typing test and was qualified, and he was impressed with her attitude. She seemed to be a person who would get along well with a variety of different people, so he hired her to work in the "assignment pool", which provides temporary clerical workers to various offices as needed. The assignments vary from a couple of days to one or two weeks and can last up to eight hours per day. Because assignments are temporary, the position is part-time.

This is Cathy's first job since she became disabled, and though part-time work is giving her a chance to re-enter the work force, she is eager to apply for a full-time secretarial position as soon as an opening becomes available. Before her disability, Cathy had accumulated a wide variety of

office experience ranging from secretary and office manager to bank teller and bookkeeper. Then about five years ago she began having problems with her knees which resulted in a series of operations and the need for a wheelchair. Cathy has been using the wheelchair for about a year and a half and hopes to graduate to crutches eventually. Meanwhile the adjustment to using the wheelchair and the physical stress of frequent surgery had made it difficult to consider going back to work until a friend encouraged her to give it a try. She found her biggest problem was lack of self-confidence, a problem that her current position has helped her overcome.

Cathy has required little in terms of job accommodations. She is comfortable working at desks and typewriters from her wheelchair without height adjustments. She has had no problems with reaching things on desks or in file cabinets. Her big problem has been with access to some of the older buildings at the Lab. (For an employee with a permanent position the necessary physical modifications would have been made; however Cathy's job involves temporary assignments at various locations). This problem has been handled in two different ways. First, by careful selection of assignments, Cathy can be assigned to jobs in buildings that are accessible. Second, in some cases work can be brought to her if the job is nearby.

Cathy seems to be working out well, so far, though she does receive fewer assignments than she otherwise would. She likes working at ORNL. Her co-workers have been extremely helpful, willing to help her out as needed. Apart from small things like opening a door or an occasional errand, Cathy has been able to manage on her own very well. She's glad to be working again and appreciates ORNL giving her this opportunity.

Sally is a compositor, a technical typesetter, in the Technical Publications Department of the Information Division at ORNL, the department responsible for production of reports at the Lab. Her job involves working with a text editor, using typesetting commands, good typing skills and a high degree of accuracy. She is one of six typesetters with interchangeable skills who work as a team. Sally is deaf and at her first interview two and a half years ago her supervisor was called in to interpret when the scheduled interpreter failed to show. Her supervisor has good sign

language skills and has worked with the deaf before, so communication between them has been no problem. The interview focused on her abilities and qualifications for the job, and her deafness wasn't really raised as an issue. She had some college including a computer programming course and ten years experience as a typist before coming to ORNL. She is a good worker, has performed well and has been promoted from a typist to a Printing Design Clerk in the time she's worked there.

Her supervisor's major concern when she first began work was one of safety, since she can't hear emergency alarms. In her case, since she works with other people, it was decided that the simplest solution was for her to always let someone know where she is in case of emergency. [In other parts of UCC-ND, visible alarms have been used and in one case a deaf employee who works on his own a great deal carries a light signal on his belt (like a beeper) so that he knows when someone is trying to reach him.] The first few weeks were hard, but after a month communication with co-workers improved as everyone adjusted and some co-workers began to learn sign language. She found her co-workers to be supportive and willing to help with things like personal phone calls. Now she has access to a TTY donated by the Division of Vocational Rehabilitation.

Sally has required little individual accommodation. She does have a light on her keyboard instead of a bell to indicate when the text is approaching the end of a line, which was installed after she asked co-workers how they knew when they were reaching the end of a line. The cost was negligible and the light was installed by the P&E Division.

For Sally the most important factor in her success at UCCND has been the acceptance and attitudes of her co-workers. She has seen an increase in the number of deaf employees and increased awareness of the deaf as individuals in the time she's been there. She and her supervisor started a brown-bag sign language course which has since been developed into a formal course in the regular UCC-ND employee training program. As her co-workers have developed a greater sensitivity to her, such as learning to include her in their conversations and keeping her informed about what's going on, and as more employees begin to learn sign language, Sally's deafness has essentially ceased to be a handicap.

III. HIRING AND ACCOMMODATION PRACTICES

Through UCC-ND's Affirmative Action Program for the Handicapped and through the one-year appointment of a Coordinator for Employment of the Handicapped, UCC-ND has established a number of practices that have become incorporated into the employment process to facilitate the hiring and appropriate placement of disabled workers. The provision of job accommodations is handled in a much less formal way and follows the decision to hire as a secondary activity to support the hiring decision. This section describes the various relevant practices in more detail.

Recruiting

UCC-ND recently developed an active search and recruitment program to bring more qualified disabled applicants to the firm. This has included AA staff and/or other recruiters visiting Gallaudet College and Southern Illinois University. Recruitment plans were made to visit Rochester Institute for the Deaf as well but were cancelled because of limited openings. However, when hiring opportunities increase, the UCC-ND will recruit at Rochester Institute for the Deaf. Though hiring has currently slowed to a trickle at three of the four installations, recruitment at Gallaudet College has been retained. S.I.U. proved less successful however, since few, if any, of the disabled students at the time of the visit to the school in 1981, were studying fields relevant to the kind of work performed at UCC-ND.

Of special interest among UCC-ND's recruitment activities is the relationship the Central Employment and Equal Opportunity offices has developed with the Tennessee Division of Vocational Rehabilitation. Following a meeting with half a dozen selected counselors to discuss the kinds of job opportunities available at UCC-ND, a liaison was chosen to review potential referrals and select possible applicants to UCC-ND. Over two years, UCC-ND hired about 13% of the applicants referred by VR, a substantial improvement over the past, but indicating that still too many inappropriate referrals were being received. Obviously VR needed further training, so a "bigger, better meeting" was set up to include various employment staff

as well as AA staff and a larger number of VR counselors. In this meeting much of the focus was on explaining why individuals had not been hired. The counselors were given examples and labels for inappropriate types of clients to help them remember whom not to refer. (For example a "willy nilly" is someone who is undependable, a "once in a blue mooner" is someone UCC-ND has only occasional openings for such as a lawyer). An important part of the agenda was a view graph presentation of the current job openings in the UCC-ND, with the kinds of skills needed to fill such openings. The company's concern was to have VR distinguish between referred and recommended clients, and to provide information about how long the VR had worked with the client, the kinds of services that had been provided, and suggestions for accommodating the client. Regular meetings with a VR liaison have been held to discuss individual potential applicants. While it is too soon to know the results, especially since UCC-ND is doing little hiring, the referrals do seem to be improving.

Another source of applicants that shows some promise is the Training and Technology Program (TAT) which is operated by UCC-ND and Oak Ridge Associated Universities, with support from the Department of Energy. This program has been established to train disadvantaged and hard-to-place individuals in machining,welding, pipefitting, physical testing, and drafting. A strong emphasis is also placed on the development of good work habits. The program has been involved in training the handicapped for several years and has become a source of job-ready, disabled applicants.

There are two major barriers that face the recruitment program. One is that due to federal cutbacks, UCC-ND is doing very little hiring at three of its four installations at the present. Active recruitment for positions that don't exist doesn't make sense. The other barrier is the apparent lack of qualified handicapped applicants in the area. This is especially true for degreed applicants. Even at the universities where one might expect that one could recruit for M.S./B.S. or Ph.D. positions, most of the disabled students seem to be majoring in humanities and social sciences.

In response to the reduction in hiring activity, the main thrust in AA at UCC-ND is the upward mobility of its existing employees. In

response to the lack of qualified applicants, UCC-ND continues to work with the state VR agency to encourage the training of more marketable skills, and continues to look for new sources of applicants that qualify for M.S./B.S. and Ph.D. positions.

Hiring

For the past year, when a handicapped individual has submitted an application at UCC-ND for employment, either by self-identifying on the application, possessing an obvious handicap, or by applying through a specific recruitment source, his/her application has received special handling. The Coordinator for Employment of the Handicapped has reviewed the application, has interviewed the applicant, and if the applicant has shown any reasonable possibility of qualifying for available positions, has compiled references and transcripts. This packet has then been forwarded to the appropriate division at the installation where the job opening(s) are available. The packet is accompanied by a form that requires the department staff to provide justification if the applicant was not interviewed or if interviewed and not hired, to justify why another applicant was selected (see Attachment 1).

In addition, a "TLC" card with basic information about the applicant is sent to the AA Rep in that division who follows up to see what the outcome has been. To give handicapped applicants further visibility, a one-page publication, "Handicap Highlights," listing choice handicapped applicants and their qualifications is circulated to all four installations.

This system of special handling has evolved as a method to increase the likelihood that individual applicants will be interviewed and seriously considered for as many positions as appropriate. The Coordinator found that if she could get prescreened applicants as far as an interview, about 50% of them would actually get hired. The system also avoids the problem of an individual just being interviewed once and, if not selected, simply forgotten. By keeping track of applicant flow, it became possible to re-route an applicant to another available opening.

Two factors in particular contributed to the Coordinator's success. First, with her background in employment, she was familiar with the requirements of the various openings, and with additional special training in

"Occupational Development for Handicapped Persons" (as preparation for this one-year assignment), she was able to effectively screen applicants for those qualified for UCC-ND job openings. Secondly, she developed persuasive "marketing" skills to "sell" managers and supervisors the idea of interviewing prescreened applicants (with references and transcripts already compiled). She found that those managers who hired handicapped workers needed little selling the next time.

Each installation also has a Selective Placement Committee set up specifically to advise supervisors and managers in the analysis of jobs, to identify appropriate job and task assignments for handicapped applicants, and to assist in determining accommodations to a specific individual's handicapping condition. Each committee consists of the installation's safety director and medical director, as well as staff from the labor relations and employment departments (see Attachment 2). The committees are to be used as resources when questions of individuals' abilities, needs for accommodation, or issues of safety arise (note the reference to the committee on Attachment 1). The committee members are available individually, each offering a different area of expertise, as needed, as well as functioning collectively as a committee to discuss issues of general concern.

Accommodations

At UCC-ND, when one mentions accommodation of handicapped workers, most people think of the removal of architectural barriers. Since many of the buildings are old and were not built with accessibility in mind, this is no small task. At ORNL, for example, many of the buildings are over 40 years old. Installation of elevators in buildings not designed for them is expensive and the stairways are so narrow that use of them for evacuation of a wheelchair-user during an emergency is potentially dangerous. Since there are so many buildings, even the building of ramps to give access to the first floor of every building would be very expensive. However, UCC-ND is committed to providing the access that is needed. Having created access to employment and personnel offices as well as common-use areas, they have also begun making other buildings accessible

as more wheelchair-users are hired. This process will probably be gradual since in UCC-ND's experience only a small proportion of disabled job seekers require the removal of architectural barriers.

UCC-ND's experience has been that most disabled workers need little job accommodation. Minor changes in job procedures or worksite occur naturally and informally and co-workers are generally willing to provide help with small tasks. Individual accommodations are provided as a matter of course and are not the focus of a lot of attention. The need for accommodation is rarely discussed during the hiring interview. Rather, interviews focus on the individual's qualifications for the job. Once the hiring decision has been made, attention is turned to any special needs the individual may have. If accommodations are needed, they are discussed when the job offer is made.

The area of accommodations that seems the most advanced and is becoming formalized is the accommodation of deaf employees. This includes:

- the use of professional interpreters for which written guidelines have been developed (see Attachment 3);
- the purchase of TTYs to allow deaf employees to receive and make phone calls;
- the provision of sign language instruction including the production of eleven 20-minute video tapes to accompany the text;
- installation of warning lights in the cafeteria and in facilities where deaf employees work;
- weighting of the clerical test to take into account problems in grammar (for those positions where English skills aren't essential); and
- extension of the Career Planning Program to include deaf employees (involving adapting language of materials to be usable by deaf persons).

Both deaf employees and their supervisors seem pleased with the results, and as more co-workers learn to use basic sign language, the communication

barriers are minimized. UCC-ND hopes to continue hiring larger numbers of deaf employees.

Upward Mobility

As mentioned previously, UCC-ND is facing cutbacks in funding at three of its four installations which have severely curtailed hiring activities at these three sites. Thus, the main thrust of the Affirmative Action Programs has been directed toward the upward mobility of existing employees, which for some years has shared the limelight with AA recruitment and employment. For FY82, the identification of individuals capable of promoting into managerial or upper-level professional jobs and the development of specific plans for enhancing their capabilities have been included as affirmative action performance standards for division directors. In turn, department heads and supervisors are asked to provide lists of outstanding employees. While it is too soon to tell how effective this thrust will be, the visibility given to management's commitment to affirmative action for the handicapped through extensive physical modifications, staff training programs, and a variety of other media will surely contribute to the program's success.

Turning Policy Into Action

As mentioned earlier, top management at Union Carbide has a strong commitment to affirmative action for the handicapped. However, without full participation and commitment of those who are responsible for implementation, the policy would be meaningless. Each division may implement the policy somewhat differently, and even each installation, division, department, and supervisor may differ somewhat, but the message from the top is clear: Union Carbide will take affirmative action to hire the handicapped.

Measures of Performance

One of the mechanisms for communicating this policy to all levels is by including AA in Measures of Performance (MOPs). By making use of an

already existing and effective structure for communicating policy, it is possible for the commitment to cascade down very quickly to managers and supervisors. MOPs for a division president become MOPs for a division director, and get translated into MOPs for department heads and so on down the line. While the MOPs carry no sanction for failure, they do carry rewards for achievement and serve to bring focus to policy by providing traceability and a reinforced chain of communication (the MOPs are discussed regularly).

Training

Another important aspect of implementing the AA program has been to train staff in the regulations, company policy, and disability awareness. A one-hour video presentation entitled "They've Traveled Far to Reach Our Door -- Can We Do Less Than Open It?" was produced for in-house use to educate employees and supervisors about various handicaps. The film depicts five Nuclear Division disabled workers and their supervisors and deals with safety concerns, performance of handicapped employees, and attitudinal barriers. The film shows how fear of what to expect of handicapped applicants and initial reluctance to hire them vanish in the light of experience. The film could well have been titled "From Adversary to Advocate".

The videotape "Affirmative Action [illegible] at ORNL" also includes discussion of AA for the handicapped [illegible] shown to all new hires at orientation and used for supervisor [illegible]ning. Supervisor awareness training also includes a discussion of discriminatory practices and how to handle AA complaints.

An area of need that has recently been identified is training supervisors in how to orient new handicapped employees to their worksite and their co-workers. The biggest barrier to acceptance seems to be when people don't know what to expect. Orientation has been handled on a case-by-case basis with assistance from employment staff, but the need to train supervisors in this area has become more apparent as the number of handicapped employees increases.

Monitoring

UCC-ND has an extensive monitoring and recordkeeping system to support the AA program for the handicapped. In addition to tracking applicant flow as mentioned earlier, UCC-ND keeps records of the number of self-identified, known and medically handicapped employees by installation, division, and department, and includes keeping records of promotions. This monitoring activity further increases the visibility of the program.

Publicity

Publicity within the company of accomplishments, activities, and goals relating to the handicapped is accomplished through company newsletters, posters, and participation in events such as National Handicapped Awareness Week and Deaf Awareness Week. These serve to communicate management's commitment throughout the company and remind employees of their responsibility in fulfilling that commitment. It was expressed, however, that while these methods are valuable, they are not effective without a mechanism like the MOPs to help the program become a regular, routine part of company operations.

Internal Complaint Procedure

The procedure established to resolve AA complaints is one that focuses on resolving the problem at the lowest level possible (see Attachment 4). In addition to providing handicapped employees with due process, it is seen as further reinforcing AA policies and management's commitment.

DECISION FACTORS

There are a number of different factors influencing both the implementation of company policy and individual hiring or accommodation decisions. Some of these are external to UCC-ND and others are influences from within.

Safety

UCC-ND has a remarkable safety record with over 25 million work hours without a work-related incident between September 1980 and June 1981. This has been accomplished through an extensive safety program which includes training in extinguishing fires, safe use of equipment, and emergency evacuation procedures. Handicapped individuals and their co-workers go through practice runs of evacuation procedures until a method is worked out that will work effectively in a real emergency.

The focus on safety which has evolved from the nature of the work done at UCC-ND has had a significant influence on hiring attitudes. Historically there has been strong resistance to hire the handicapped because of fear of increased safety risk, not just on the job, but during evacuation also. Experience with disabled workers has shown them to be no less safe than their non-disabled co-workers, and through individual experience and exposure through the videotape, more and more managers and supervisors are changing their attitudes about hiring the handicapped.

The Economy

The shift in the economy away from federal spending has placed UCC-ND in a state of reduction in force which has brought hiring to a near standstill at three of the four installations. The one installation that does have hiring opportunities fills as many job openings as possible with candidates for reduction-in-force at the other three installations. Thus, hiring the handicapped and support activites such as recruitment, special handling of applications, etc. are more or less at a standstill also.

The status of the economy is also reflected in rising costs and salaries. As budgets get tight, it becomes more difficult to cover the cost of expensive modifications. While cost has not been a major issue thus far, if an individual were to need an expensive modification, it would be less likely or take longer in times of tight budgets.

Low Turnover

Oak Ridge is an attractive place to work and live. Union Carbide has an attractive fringe benefit package and a variety of in-service training

programs that contribute to career advancement. Many of UCC-ND's employees have served 20-30 years or more. Thus, available openings are somewhat limited compared to other industries.

Because of the low turnover rate, the average age of the work force especially the hourly (union) employees working in the more physically demanding jobs, is older than in other industries. Almost 20% of the hourly workforce at ORNL, for example, has some kind of medical restrictions or work limitations, most of which are simply related to getting older. These restrictions are accommodated by selective task assignments and efforts are made to keep medically handicapped employees as long as possible, as long as sufficient work tasks are available for full-time work. The strong concern for safety places an emphasis on strict adherence to medical restrictions, and the identification of work limitations is made possible by mandatory periodic physical exams conducted by in-house physicians.

Support Services

Tennessee does not have the extensive network of independent living and other support services in the community that are available in some of the other states such as California. Employers have limited resources for referring handicapped workers who may need extra help in developing independent living or work adjustment skills. Thus, it is important that all employees have not only the qualifications necessary to do their job, but also are job-ready, with good work habits.

UCC-ND has responded to this need by recently expanding their clerical vestibule (training) program to include the handicapped.

Qualifications of the Individual

As with the hiring of any employee, the focus on hiring the handicapped is on their qualifications to do the job. If an individual is qualified, the necessary accommodations will follow. The individual's personality and attitude towards his/her handicap can be an important factor in hiring, just as the personality and attitudes of any applicant can affect his/her chances of being employed. Disabled workers must meet

the same performance expectations as anyone else, so qualifications and ability to do the job are the primary focus.

CONCLUSIONS

Respondents were asked to give their recommendations to other employers and federal policy makers about hiring and accommodating handicapped workers. These, along with the information provided about their policies, practices, and experiences, provide a variety of lessons to be learned.

Recommendations for Other Employers

It was stressed many times that AA staff can do little to bring about change without a strong, visible commitment from top management. This is considered a key element of success and should be translated into regular, ongoing procedures. Periodic attention drawn to the issue without a mechanism for implementation isn't enough.

Negative attitudes fostered by a lack of understanding, knowledge, or experience were felt to be the biggest barriers to employment of the handicapped. Employers need to look beyond the handicap and look at the person underneath. "If they're qualified, give them a chance." Energy and resources spent on increasing awareness of managers, supervisors, and co-workers are well spent. Like anything new, you have to sell it.

Many employers seem concerned that the performance of handicapped workers will be below standard, yet experience shows that disabled workers are good performers. Often feeling the need to prove themselves, they tend to be better employees than their non-disabled co-workers.

Most disabled workers need little in terms of special accommodations. For even those that do require some type of accommodations, usually the cost is low. Affirmative action benefits everyone by creating an environment where all employees are aware that they are valued for what they contribute regardless of other characteristics. AA for the handicapped reassures other workers that if they become physically limited in some way, they will still be valued employees.

It takes a lot of energy to effect a major positive change. Recruiters should find the best qualified applicants possible. Trying to push the wrong person can do the AA program more harm than good.

Set up a system for monitoring progress. This reinforces policy, provides visibility and provides a feedback loop essential to bringing about change.

Recommendations for Federal Policy Makers

Government should take a positive approach to implementing AA for the handicapped; incentive rather than punishment. The focus should be on bringing about improvements rather than looking for things wrong. These changes will take time and while employers are in the process of bringing about change, some areas are bound to be weaker than others. Government should try to provide incentives for improved performance. In order for tax credit programs to act as incentives, however, paperwork must be reduced.

Government agencies involved in training and educating the handicapped need to focus more on providing marketable skills. They need to become more familiar with the hiring needs of employers and direct their energy to increasing the pool of qualified disabled applicants in fields where job openings exist.

Lessons to be Learned

The recommendations listed above serve well to summarize the lessons to be learned from the experiences of UCC-ND. A strong management commitment backed by capital investment to improve physical access, management techniques to turn policy into action, and training to improve attitudes can go a long way towards ensuring equal employment opportunities for the handicapped. As attitudes gradually begin to change and employees become more open to accepting handicapped workers, the limiting factor ceases to be one of attitudes but rather the availability of qualified applicants.

Attachment 1
FORM 2

SUPPLEMENT TO QUALIFICATION RECORD OF HANDICAPPED APPLICANTS

Attention _____ Division _____

Name of applicant _____

Vietnam Veteran ___ Disabled Veteran ___ Handicapped ___ (Description of handicap ____

_____)

The attached application form is for a handicapped individual who is being considered under ORNL's Affirmative Action Program for the handicapped.

If applicant is invited, retain form and complete section B after selection has been made.

If applicant is NOT invited complete section A and return to the appropriate Employment Department.

Invited _____ Not invited _____

Date interviewed _____

A. 1. Why was the applicant not invited for an interview?

2. Were others invited for an interview? If so, what were their qualifications?

3. How did this applicant's qualifications compare with the standards set for the job?

4. Describe the accommodations which were considered for this applicant.

5. Were the services of the Selective Placement Committee used in answering question 4? (Contact person for the Selective Placement Committee. Barbara Ashdown, 6-2432)

6. Who reviewed this application?

****

B. 1. Name of successful applicant _____

2. How did this applicant's qualifications compare with the handicapped applicants' qualifications? _____

_____

_____

Signature of responsible departmental representative

Attachment 2

ROLE OF SELECTIVE PLACEMENT COMMITTEE

1) To advise supervisors and managers in the analysis of jobs with the potential of being filled by a handicapped individual.

2) To assist in determining accommodations to a specific individuals' handicapping condition.

SAFETY DIRECTOR

By special qualification and training and a practiced eye for identifying hazards, can most readily perceive whether adaptions in work environment would be necessary.

MEDICAL DIRECTOR

Identification of individuals as having bona fide handicapping conditions. Notes any restrictions. What the applicant can do as well as what he/she cannot.

LABOR RELATIONS

Where Union Contracts are involved to make sure that there are no violations of the contractual agreement and to be sure that the bargaining agreements do not preclude the placement of handicapped persons in hourly positions that may be compatible with a physical or mental limitation.

EMPLOYMENT DEPARTMENT

To ensure that job specifications actually are job-related and job descriptions. Also that necessary record-keeping on applicant flow is consistently maintained.

PUBLICITY

Distribution to Division Directors and Program/Project Managers of the announcement of the formation of the SPC.

Announcement in the May 1979 issue of the Lab News.

Attachment 3

ORNL GUIDELINES FOR USING PROFESSIONAL INTERPRETERS

To assure equitability in divisional use of professional interpreters, we have established the following guidelines.

Divisional uses of professional interpreters is recommended for the following:

1. Performance Review Conferences. Because these sessions have an impact on the career development and mobility of employees, hiring a professional interpreter is important.

2. Job and career training. Training affects the mobility potential of individuals. Good communication in this area would warrant professional interpreting.

3. Complaint sessions within the division, disciplinary conferences, and major conferences between employee and supervisor where confidentiality and good communication are needed for successful outcome. Judgement in these matters will be based on a case-by-case basis.

The Safety Director in cooperation with the Affirmative Action Office, will provide interpreting services for the following:

1. Safety Meetings. Attendance at four meetings per year is mandatory for all Laboratory employees. To avoid each division bearing the cost for all safety meetings, the Affirmative Action Office will be responsible for scheduling the required meetings for deaf employees. All deaf employees will attend a safety meeting together. An interpreter will be available at that session. Cost of interpreting services will be covered by the Laboratory Safety Director.

   The Affirmative Action Office will check with divisions employing the deaf for their schedule of dates and topics. Attendance of deaf employees will be rotated among divisional meetings and between X-10 and Y-12 to assure equitability in moving employees around.

   Because safety meetings are vital aspects of our work environment, we need to accommodate our handicapped employees to receive this information.

   Divisions will be asked for brief agendas and synopses of these meetings to better prepare the deaf employees before the meeting.

   Deaf employees who cannot attend these scheduled meetings will have to attend without an interpreter. Employees will be given at least 2 weeks advance notice of the meeting.

Attachment 3 (continued)

2. Safety-related training. Safety training recommended for all employees will be sponsored by the Safety Director's Office. Training of this type includes defensive driving, fire training, etc.

The Laboratory will provide professional interpreters for the following:

1. Laboratory-wide personnel meetings. An interpreter will be provided at one or more sessions of the Laboratory meetings on topics such as benefits, performance reviews, new programs, etc.

2. AA Complaint Counseling. If an employee seeks counseling from the Laboratory Coordinator, the Laboratory will be responsible for the necessary interpreting.

3. Salaried Employee Grievance Program. If an employee takes a complaint to a counselor, the Laboratory will arrange interpreting.

4. Confidential conferences on personnel or complaint matters. If an employee needs strictly confidential personnel information from any of the Employee Relations Departments that cannot be handled in writing, the Laboratory will be responsible for interpreting services. This includes open door conferences outside the employee's division with Sommerfeld, Postma, or other managers.

Use of interpreters for other types of communication will be considered on a case-by-case basis. Overall guidelines for these include:

1. General office communication. Employee's peers are encouraged to learn basic sign language for everyday communication. (Videotaped sessions are available for group practice and an in-hours course is now being offered, contact Personnel Development, 4-4444).

2. Staff Meetings. Regular weekly or monthly functions can probably be handled with assistance from signing employees in this group. Supervisors should give their deaf employees written agendas and brief synopses of the meeting. A written summary of the meeting can also be given to the employee.

3. Communication of general procedures and practices. Communication of policies and procedures can be done in writing and with peer assistance. Remember that deaf employees do not have access to office "grapevine" communication and often do not get the proper meaning of a policy that might be generally "understood" by hearing employees.

Emergency communication. Getting a professional interpreter would probably take too long for an emergency. The AA office maintains a list of people who can sign well enough to be helpful during an emergency. Please contact the AA office if you need intervention. Otherwise you might prepare the deaf employee's peers to be able to sign well enough to help.

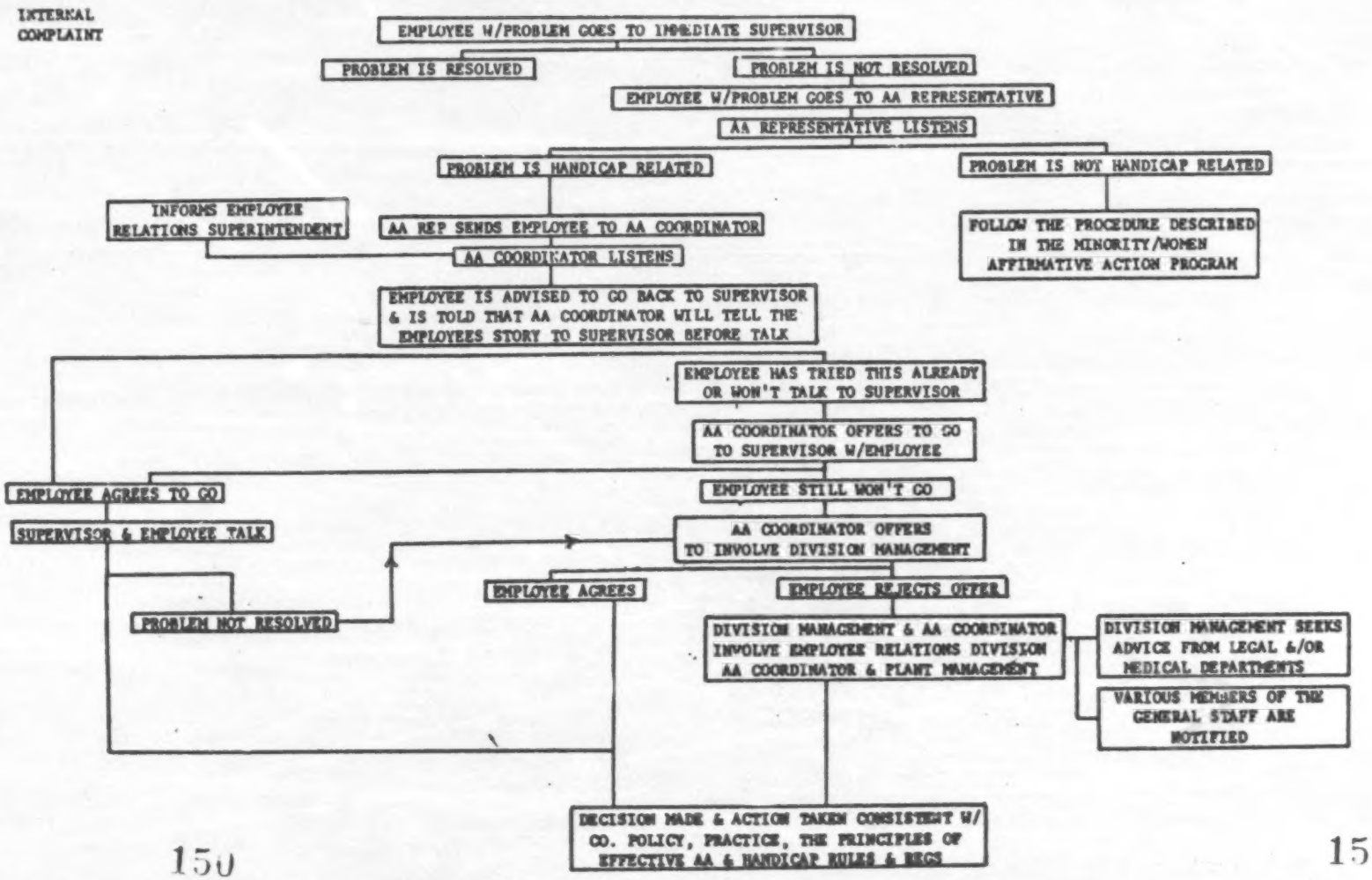
Attachment 3 (continued)

TTY's available at X-10 and Y-12 sites for business and emergency purposes. Deaf employees can use the teletypewriter devices located in the shift supervisors offices at X-10 and Y-12. The X-10 TTY is located at the East Portal and the Y-12 TTY is located in 9706-2. X-10 employees at Y-12 can use the Y-12 device. Supervisors of deaf employees are encouraged to familiarize themselves with these devices and to allow their employees to become familiar with them.

Further questions on accommodating the deaf can be referred to the Affirmative Action Office, 6-2432.

Attachment 4

Internal Complaint Procedure


INTERNAL COMPLAINT
EMPLOYEE W/PROBLEM GOES TO IMMEDIATE SUPERVISOR
PROBLEM IS RESOLVED
PROBLEM IS NOT RESOLVED
EMPLOYEE W/PROBLEM GOES TO AA REPRESENTATIVE
AA REPRESENTATIVE LISTENS
PROBLEM IS HANDICAP RELATED
PROBLEM IS NOT HANDICAP RELATED
INFORMS EMPLOYEE RELATIONS SUPERINTENDENT
AA REP SENDS EMPLOYEE TO AA COORDINATOR
FOLLOW THE PROCEDURE DESCRIBED IN THE MINORITY/WOMEN AFFIRMATIVE ACTION PROGRAM
AA COORDINATOR LISTENS
EMPLOYEE IS ADVISED TO GO BACK TO SUPERVISOR & IS TOLD THAT AA COORDINATOR WILL TELL THE EMPLOYEES STORY TO SUPERVISOR BEFORE TALK
EMPLOYEE HAS TRIED THIS ALREADY OR WON'T TALK TO SUPERVISOR
AA COORDINATOR OFFERS TO GO TO SUPERVISOR W/EMPLOYEE
EMPLOYEE AGREES TO GO
EMPLOYEE STILL WON'T GO
SUPERVISOR & EMPLOYEE TALK
AA COORDINATOR OFFERS TO INVOLVE DIVISION MANAGEMENT
EMPLOYEE AGREES
EMPLOYEE REJECTS OFFER
PROBLEM NOT RESOLVED
DIVISION MANAGEMENT & AA COORDINATOR INVOLVE EMPLOYEE RELATIONS DIVISION AA COORDINATOR & PLANT MANAGEMENT
DIVISION MANAGEMENT SEEKS ADVICE FROM LEGAL &/OR MEDICAL DEPARTMENTS
VARIOUS MEMBERS OF THE GENERAL STAFF ARE NOTIFIED
DECISION MADE & ACTION TAKEN CONSISTENT W/ CO. POLICY, PRACTICE, THE PRINCIPLES OF EFFECTIVE AA & HANDICAP RULES & REGS

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